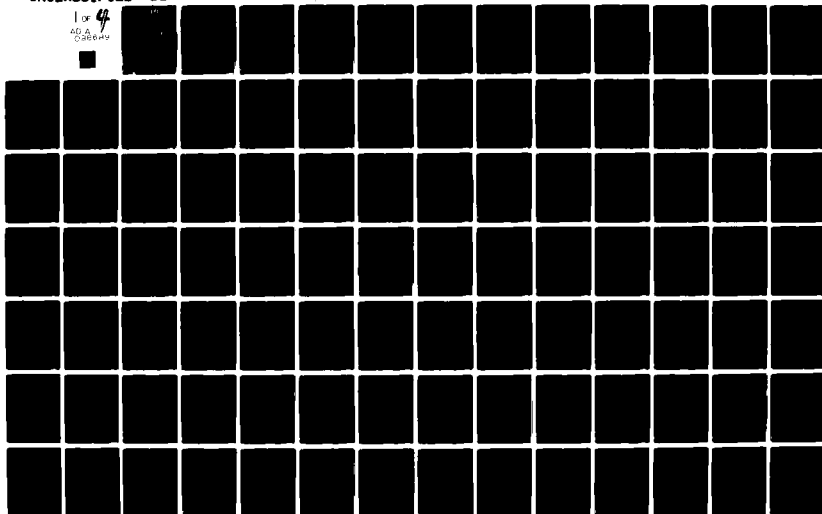


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DEVELOPMENT OF MAINTENANCE METRICS TO FORECAST  
RESOURCE DEMANDS OF WEAPON SYSTEMS.  
(MAINTENANCE METRICS AND WEIGHTINGS).

Revision A.

BY

Donald K. Hinds

Gary A. Walker

David H. Wilson

Frank Maher

Boeing Aerospace Company  
Product Support  
Experience Analysis Center  
Seattle, Washington 98124

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Mr. Frank Maher

LOGISTICS RESEARCH AND TECHNICAL TRAINING DIVISION  
Wright-Patterson Air Force Base, Ohio 45433

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KC-135A	Engines	Aircraft Parameters																				
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report describes the method and results of the sixth and seventh of eight tasks to "Develop Maintenance METRICS To Forecast Resource Demands of Weapon Systems." The purpose of this task was to analyze the maintenance action demand impact estimating relationships identified in Task 5 and develop multiple regression Maintenance Metric Estimating Models for each aircraft subsystem investigated during the study.																						

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The significant results of the maintenance metrics and weightings task were:

- a) development of generic maintenance action demand estimating models for the selected equipment of each aircraft subsystem studied. Candidate maintenance impact estimating relationships (MIER's) selected in Task 5 were transformed to "best fit" multiple regression equations explaining maintenance action demand as a function of equipment parameters, as a function of operational parameters, and as a function of environmental parameter's (a separate equation for each type parameter).
- b) development of composite maintenance action demand estimating models for the selected equipment items of each subsystem studied. These models are the "best fit" multiple regression equations resulting from step-wise optimization of composite data sets derived from the surviving equipment, operational, and environmental parameters contained in the generic models mentioned in (a).
- c) development of a procedure for transforming maintenance rates predicted by the composite maintenance action demand estimating models to expected LCOM failure clock values for each aircraft subsystem. This transformation procedure factors the total expected subsystem level maintenance demand from the selected equipment item maintenance demand predicted by the multiple regression models of (b) above.
- d) development of LCOM network maintenance task probability estimating models by transforming action taken data gathered during Task 4 for each study subsystem into appropriate expected value functions.

This document is the third of a series of five Boeing Technical Reports generating from this study, namely:

- |              |  |
|--------------|--|
| D194-10089-1 | Development of Maintenance METRICS To Forecast Resource Demands of Weapon Systems (Phase I - Analysis and Evaluation)              |
| D194-10089-2 | Development of Maintenance METRICS To Forecast Resource Demands of Weapon Systems (Parameter Prioritization)                       |
| D194-10089-3 | Development of Maintenance METRICS To Forecast Resource Demands of Weapon Systems (Maintenance Metrics and Weightings)             |
|              | Development of Maintenance METRICS To Forecast Resource Demands of Weapon Systems (Analysis and Results of Metrics and Weightings) |
|              | Development of Maintenance METRICS To Forecast Resource Demands of Weapon Systems (METRICS Final Report)                           |



## SUMMARY

This report describes the results of the sixth and seventh tasks of an eight task study. The total effort is intended to develop more accurate metrics and weightings to be incorporated into the Air Force method (Logistics Composite Model (LCOM)) for determining manpower and other resource requirements for operational and developing weapon systems.

## PROBLEM

The increased concern with the manpower required to support weapon systems currently in operation, as well as those in development has created the need for more accurate methods of projecting maintenance requirements. Meeting this need requires the development of realistic measures of maintenance rates for all of the diverse hardware that makes up a weapon system. In addition, the impact of operations and environmental conditions needs to be identified to insure the sensitivity of the maintenance metrics that are developed.

To date, the manpower and other resource requirements essential to the Operations and Support of a weapon system have been determined using the traditional "flying hours" and "sortie rate" measures. The deficiencies of these traditional measures are well known and such measures frequently are found to be totally irrelevant; for example, many avionics items operate or are cycled greatly in excess of the related flying hours. These traditional measures are also insensitive to variations in operations and environmental conditions. The present difficulties then lie in the fact that the currently used metrics do not consider the inherent differences between the individual subsystems of a weapon system and are relatively insensitive to operational and environmental conditions.

Therefore, the problem for this portion of the study was to develop more precise Maintenance Metrics and Weightings models with which to estimate new aircraft subsystem maintenance action demands and maintenance task frequencies. These estimates can then be transformed into the Failure Clock Values and Task Selection Probabilities required to drive the Maintenance Networks of LCOM simulations used to predict and evaluate the needs of new emerging weapon systems and basing concepts.

## APPROACH

The approach taken for this portion of the study effort was to use the source data acquired and processed in Task IV (Identification and Integration of Data Sources) and Task V (Analyzing and Prioritizing Parameters) to develop statistical models for the estimation and prediction of the maintenance action demand (MAD) rates and maintenance task selection probabilities of the equipment items selected for study.

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Stepwise regression analysis was applied to significant parameter data identified in Task V and MAD estimation multiple regression equations developed for each study equipment subsystem. A factoring procedure was used to estimate total subsystem MAD from the MAD estimates for the critical component equipments which comprised the data base upon which the regression estimates were based. These factors were based on the ratios of actual historic subsystem level MAD to actual historic equipment level MAD. The procedure for transforming the estimated subsystem MAD to Failure Clock values for input to LCOM simulations was calculated as an expected sorties-to-failure value from estimated maintenance action demands per subsystem per year found through the preceding approach and the expected sorties per year from the particular LCOM scenario being used.

Maintenance task selection probability estimation procedure was an averaging method using historic task frequency data from the data base. This involves the computation of mean, median, and variance of the frequency of performance for each task for each study subsystem. The results of these computations can then be used to estimate the LCOM maintenance network task selection probabilities for the simulation of new weapon systems and basing concepts.

## RESULTS

Application of the foregoing approach to the data base developed in Tasks IV and V resulted in the derivation of generic and composite maintenance action demand estimation regression models and mean maintenance task selection probability models for each aircraft subsystem studied. Three generic models were developed for each subsystem. These were:

Estimated MAD = F (Equipment Characteristic Parameters)  
Estimated MAD = F (Operational Characteristic Parameters)  
Estimated MAD = F (Environmental Characteristic Parameters)

The models in the above form facilitate estimation of expected maintenance action demand when only equipment data, only operational data, or only environmental data is available. The composite model which was developed for each subsystem was in the following form:

Estimated MAD = F (Equip., Opnl, & Environ. Characteristic Parameters).

These models are more accurate than the generic models and should be used to estimate MAD whenever the appropriate data can be obtained.

Mean, median, and variance of task selection probability values were computed for each study subsystem and can be used to estimate these probabilities for emerging weapon systems.

## PREFACE

This report was prepared by the Boeing Aerospace Company Product Support/Experience Analysis Center (PS/EAC), Seattle, Washington, under USAF Contract F33615-77-C-0075. This contract was initiated under Exploratory Development Area PMS 77-43 (1124). Work was accomplished under the direction of the Advanced Systems Division of the Air Force Human Resources Laboratory, Air Force Systems Command with Mr. Frank Maher as the project engineer.

Data emanating from this contract, "Development of Maintenance METRICS To Forecast Resource Demands of Weapon Systems," are reported in a series of five Technical Reports. Phase I of the study provided the identification of aircraft avionics and engine maintenance resource demands which were used to develop more accurate metrics and weightings for incorporation into the Air Force Logistics Composite Model (LCOM). Phase II of the study provides metrics and weightings for the rest of the subsystems making up a typical Air Force aircraft.

Experience Analysis Center program technical leader was George R. Herrold. Principal program analysts were Donald K. Hinds, Gary A. Walker, and David H. Wilson. Boeing's contract report number is D194-10089-3. This approved technical report (TR) includes work performed from 1 November 1978 through 1 October 1979.

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## I - INTRODUCTION

### 1. PURPOSE AND SCOPE

This report is the third of five reports to be completed under the Maintenance Metrics study. It describes the work accomplished during Phases I and II for Tasks VI and VII as displayed in Figure 1 and enumerated below. Tasks I through V were completed previously and documented in the first two reports in this series, D194-10089-1 and D194-10089-2. Task VIII, Analysis and Results of Metrics and Weightings, will be documented in the D194-10089-4 technical report in this series.

The significant results obtained in this task form the basis for accomplishment of Task VIII and also provide source data for related future research.

The following is a brief overview of the eight tasks developed for this study as shown in Figure 1.

### PHASE I - AVIONICS AND ENGINES SUBSYSTEMS

- |          |   |
|----------|---|
| TASK I   | Identify, Obtain, and Review Related Publications<br>- review related studies and research dealing with maintenance rates and causes.   |
| TASK II  | Select Equipment<br>- develop matrices of equipment by aircraft type in order to select specific hardware for avionics and engines subsystems.  |
| TASK III | Identify Parameters<br>- identify maintenance, hardware, operational, environmental, and aircraft general parameters which would have an impact on maintenance for the subject subsystems.        |
| TASK IV  | Identify and Integrate Data Sources<br>- identify, assemble, correlate, and integrate the data base on the equipment selected in Task II for the related parameters being considered in Task III. |
| TASK V   | Analyzing and Prioritizing Parameters<br>- prioritize the collected data to define and test relationships between the study parameters and maintenance demand rates.                              |

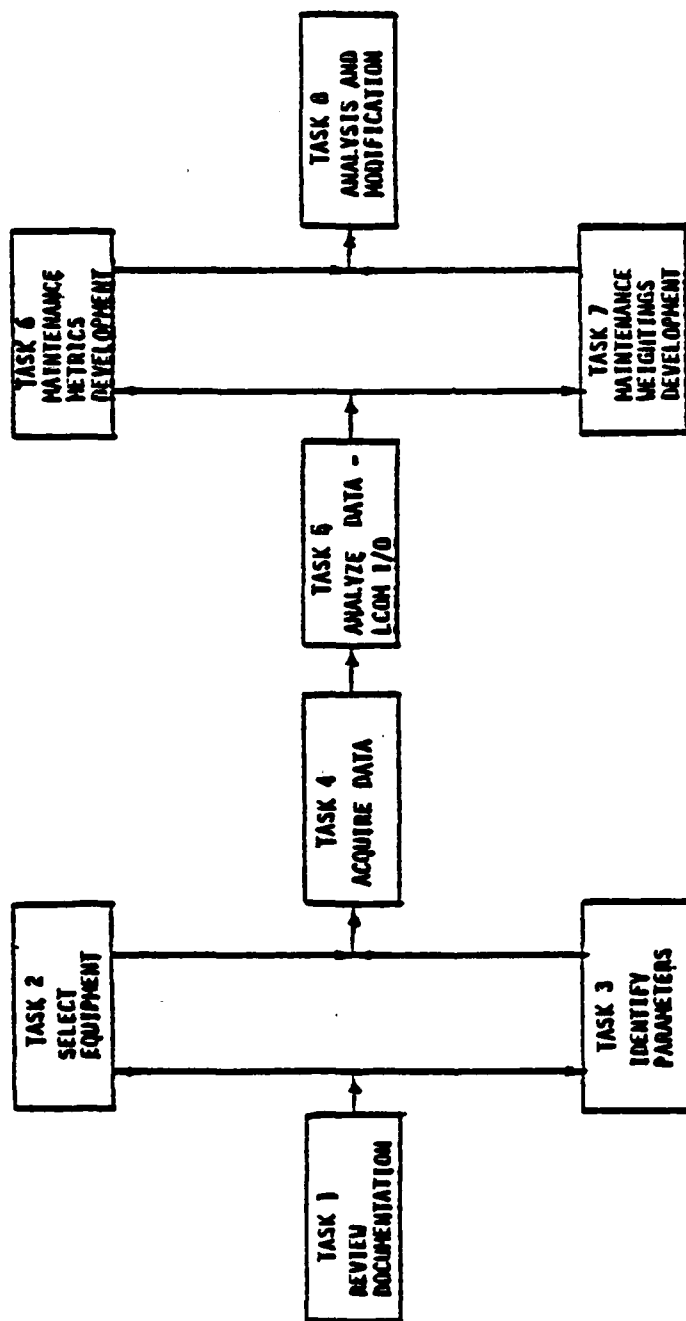


FIGURE 1 STUDY TASKS FLOW DIAGRAM

- TASK VI Maintenance Metrics Development  
- develop metrics quantifying maintenance demand rates which are computable with LCOM models.
- TASK VII Maintenance Weightings Development  
- develop weightings, quantifying identified impacts upon maintenance demand rates.
- TASK VIII Analysis and Modification  
- analyze LCOM model outputs with current and the newly developed metrics and weightings.

2. BACKGROUND

To date, the manpower and other resource requirements essential to the Operations and Support (O&S) of a weapon system have been determined using the traditional "flying hours" and "sortie rate" measures. The deficiencies of these traditional measures are well known and such measures frequently are found to be totally irrelevant (e.g., maintenance on a gun subsystem is generated by factors like the number of rounds fired, and is not affected by the number of flying hours or sorties). These traditional measures are also insensitive to variations in operations and environmental conditions (for example, many avionics equipments may operate or are cycled on the ground greatly in excess of related flying hours or number of sorties). The present difficulties then lie in the fact that the currently used metrics do not consider the inherent differences between the individual subsystems of a weapon system and are relatively insensitive to operational and environmental conditions.

The objective of this portion of this research study is to determine the hardware, operations, and environmental parameters which are necessary and sufficient to identify the maintenance demands for a weapon system, and relate these in more accurate metrics and weightings to be incorporated into the Air Force Method (Logistics Composite Model (LCOM)) for determining manpower and other resource requirements for operational and developing weapon systems. This simulation technology has been documented in References 1 through 9.

3. SUMMARY

→ The approach taken for this portion of the study effort was to utilize the source data identified in Task V as inputs to develop statistical models for the estimation and prediction of the maintenance action demands of the equipment items selected for study. The data-case values acquired for the lists of hardware, operational, and environmental parameters which were found in Task V (Analyzing and Prioritizing Parameters) to be directly and strongly related to the maintenance demand rates of the selected equipment items were reconstituted into input data sets for the modeling process. This process resulted in one hardware, one operational, and one environmental data



set being associated with each aircraft subsystem studied. Step-wise regression analysis was then applied to each data set for each subsystem's equipment to obtain best fit multiple regression equations explaining maintenance action demand as a function of equipment characteristic parameters, as a function of operational characteristic parameters, and as a function of environmental characteristic parameters. These separate equations for each type of parameter constitute "generic" Maintenance Metrics and Weightings Models which facilitate the estimation of expected maintenance action demand for any aircraft subsystem when only equipment characteristics, only operational characteristics, or only environmental characteristics are known.

Next, "composite" Maintenance Metrics and Weightings Models were developed from the generic models for each aircraft subsystem. The following approach was utilized. The component parameters in the respective generic equipment, operational, and environmental regression equations for each subsystem were reconstituted into a composite data set corresponding to each subsystem. Step-wise regression was applied to these composite data sets. This process resulted in a "best fit" estimating equation to explain the expected maintenance action demand of each aircraft subsystem in terms of the equipment, operational, and environmental parameters selected from the corresponding composite data set by the step-wise regression process. These composite models provide a more accurate statistical estimation of the maintenance demand for a given subsystem than any of the three types of generic models used singly. The composite models should therefore be used to predict maintenance action rates whenever the appropriate equipment, operational, and environmental data can be obtained.

The generic and composite Maintenance Metrics and Weightings regression equations developed through the foregoing processes were based on a sampling of the critical equipment items in each aircraft subsystem. Therefore, the next step in the LCOM failure clock estimation process was the development of a computational procedure for deriving total subsystem maintenance action demand rates from the partial rates computed from the regression equations. The procedure developed for this transformation utilizes historical maintenance action demand data from a known situation in which the subsystem (or a similar subsystem) was used. This known data is used to derive a total subsystem factor which can be applied to the partial estimated maintenance action demand rates as calculated from the regression model for the unknown situation for which the LCOM failure clock value is required. For a specific problem, the total subsystem factor is calculated as the ratio of some actual historic maintenance action demand (MAD) at the subsystem level to the actual historic MAD of the equipment items within that subsystem on which the MAD estimating regression model is based. This ratio is then used to factor the partial MAD, as estimated from the appropriate regression equation, to a total subsystem estimated MAD. The last step of the procedure is to calculate an expected "sorties-to-failure" value from the estimated maintenance action demands per year as found above, and the expected sorties per year from the particular LCOM

input scenario being used. This sorties-to-failure value is the desired failure clock value to be used in the LCOM simulation of the unknown situation being investigated.

The last subtask for the metrics and weightings development effort was the development of an estimation procedure for LCOM maintenance network task selection probabilities. The approach taken for this task was a straight-forward averaging method using historic task frequency data. Specific maintenance task frequencies were extracted from the study data base (Refer to Task IV, D194-10089-1) for each data case (aircraft/base combination) for each aircraft subsystem. The mean, median, and range of the frequency of performance for each task for each subsystem was then computed. The results of this analysis facilitate the estimation of the LCOM maintenance network task selection probabilities for the simulation of new weapon systems and basing concepts.

## II - DEVELOPMENT OF MAINTENANCE METRICS AND WEIGHTINGS MODELS - TASKS VI AND VII

### 1. INTRODUCTION

Tasks VI and VII of the study were the development of new comprehensive prediction and estimation models for maintenance action and task rates from the field experience and analytical data base accumulated by the first five study tasks. The objective of this model development effort is the improvement of the estimation techniques currently used to predict the maintenance metrics of emerging weapon systems and/or new basing concepts. Specific intended use of the products of Tasks VI and VII is the improvement of input values for LCOM maintenance network failure clocks and task selection probabilities when simulating new systems and situations.

The task results reported herein cover both Phase I (propulsion and avionics) and Phase II (other aircraft systems) investigations and model development.

The general Task VI and VII approach divided the effort into eight subtasks as shown in Figure 2. The preparation and execution of these subtasks are discussed in the following paragraphs.

### 2. DEVELOPMENT OF GENERIC MAINTENANCE ACTION DEMAND ESTIMATING MODELS

The first step in the process of development of comprehensive Maintenance Metrics and Weightings Models for aircraft systems was to explore the feasibility of generic estimation models whereby the maintenance action demand for a given subsystem could be predicted from just equipment characteristics, just operational characteristics, or just environmental characteristics. To this end, generic model development data sets were assembled for the effort. These data sets were extracted from the data base acquired through the processes of the first four study tasks (Refer to document D194-10089-3), and are composed of the equipment, operational, and environmental parameters which were found to be significantly correlated with maintenance action demand during the course of Task V (Refer to document D194-10089-2, Parameter Prioritization). This effort comprised subtasks (1) and (2) as shown on Figure 2. Three generic significant-parameter data sets were assembled for each of the thirty aircraft subsystem equipments investigated for this study contract. These data sets are included in this document as Appendix A. Tables A-1 through A-30 present Maintenance Action Demand (MAD) data versus significant Equipment Characteristic Parameter data. Tables A-31 through A-60 present MAD data versus significant Operational Characteristic Parameter data. Tables A-61 through A-90 present MAD data versus significant Environmental Characteristic Parameter data.

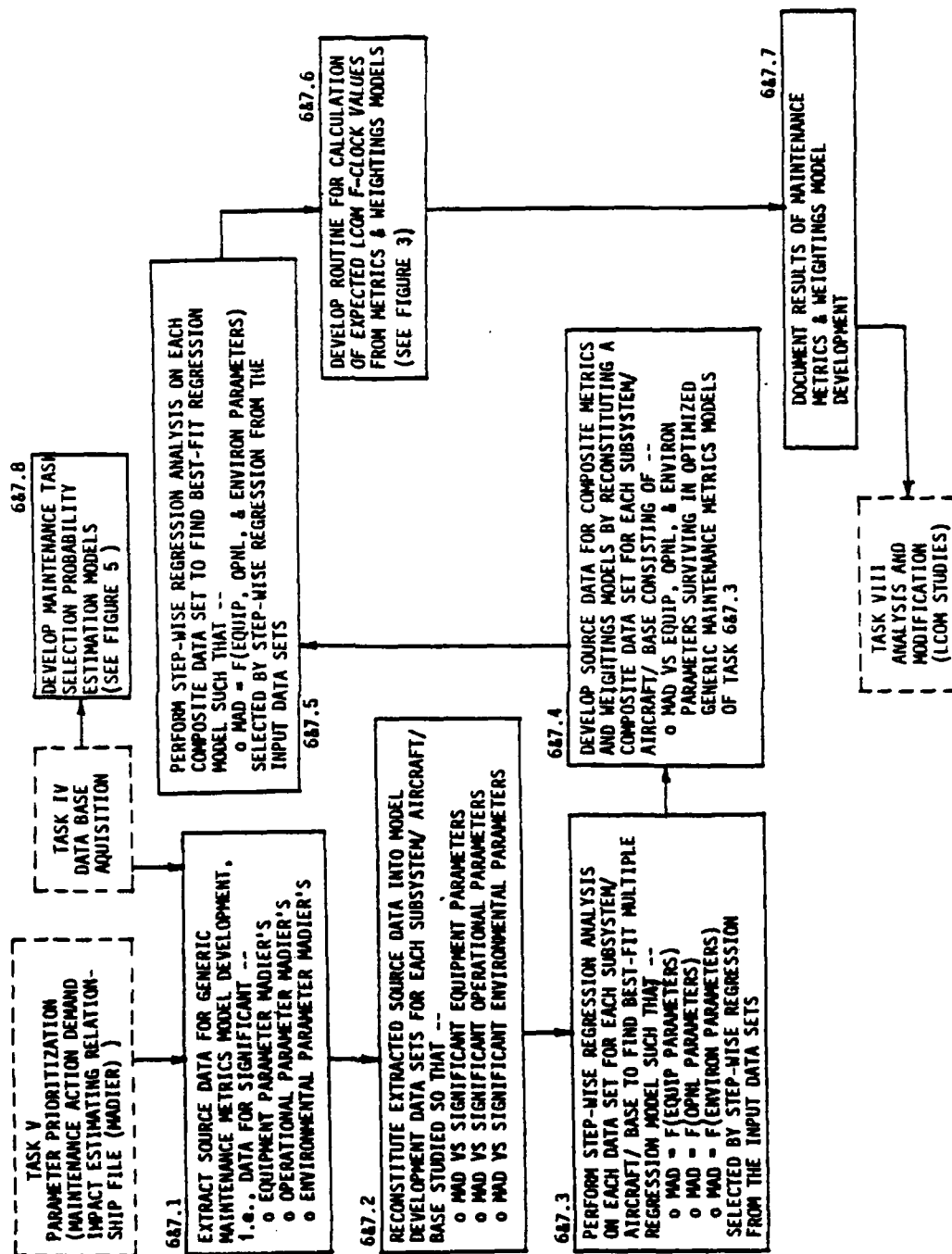


FIGURE 2 TASKS VI AND VII PROCESS FLOW

Step-wise regression analysis was then applied to each of the significant-parameter data sets to find the "best fit" multiple regression equation to explain maintenance action demand in terms of some or all of the parameters included in each of the three data sets corresponding to each of the thirty aircraft subsystems analyzed. This effort was subtask (3) as shown on Figure 2 and resulted in the derivation of ninety regression equations for the estimation of --

- MAD as a function of Equipment Characteristic Parameters,
- MAD as a function of Operational Characteristic Parameters,
- MAD as a function of Environmental Characteristic Parameters,

the ninety equations comprise one set of three equations for each of the thirty subsystems. An interactive computer technique was utilized to develop the above equations. The program package used was Boeing Computer Services' "Conversational Terminal System" statistical program package (STAT PACK), STEPWISE REGRESSION subroutine (Reference 10). This program allows the analyst to experiment freely with the choice of independent variables to be included in the regression equation and thus find an optimum fit of the data in terms of multiple correlation coefficient, standard error of the estimate, and the T-statistics of the included variables. Table 1 lists each subsystem's MAD estimating equation in terms of Equipment Parameters. Table 2 lists the MAD estimating equations in terms of Operational Parameters. Table 3 lists the MAD estimating equations in terms of Environmental Parameters. Table 4 is a key which defines the Parameter I.D. Numbers included in the equations of Table 1 through 3. Appendix B presents each of the generic Maintenance Metrics Models as listed in Tables 1 through 3 along with corresponding multiple correlation coefficients, adjusted standard errors, and T-statistics of the included variables.

### 3. DEVELOPMENT OF COMPOSITE MAINTENANCE ACTION DEMAND ESTIMATING MODELS

The next step in the development of comprehensive Maintenance Metrics and Weightings Models for aircraft was the derivation of MAD estimating models which combine the maintenance impacts of equipment, operational, and environmental characteristics in a single model for each subsystem studied. To this end, composite model development data sets were assembled for each aircraft subsystem. The equipment, operational, and environmental parameters selected for inclusion in each data set were those parameters which were included in the generic models for each subsystem. Assembling the composite model development source data comprised subtask (4) as shown in Figure 2. Appendix C, Tables C-1 through C-30 contain these data sets.

The STAT PACK Stepwise Regression routine was then applied to each of these composite data sets to find the "best fit" MAD estimating multiple regression model from among the candidate independent variables (equipment, operational, and environmental parameters) included in the set corresponding to each aircraft subsystem studied. This effort was

TABLE 1 EQUIPMENT CHARACTERISTICS MAINTENANCE METRICS MODELS

MAD PER UE PER YEAR = F( EQUIPMENT PARAMETERS )

PROPULSION SYSTEM MAD	= -44.142+0.421(P02)+0.192(P04)
FLIGHT INDICATORS MAD	= -0.557+0.720(A03)
AIR DATA SYSTEM MAD	= +8.271+0.155(A03)-1.680(A07)-0.298(A16)-0.054(A19)
HSI SET MAD	= +4.643-1.076(A07)-0.296(A16)+0.0065(A18)
AUTOPILOT MAD	= +39.196-1.163(A03)+0.032(A04)-2.885(A08) -3.698(A13)-0.262(A19)
UHF COMM SET MAD	= -3.131+3.418(A03)-0.081(A04)-1.562(A05)
IFF TRANSPONDER MAD	= +1.147+0.377(A02)-0.0185(A09)
INS SET MAD	= -0.034+0.346(A05)
ILS SET MAD	= -0.456+0.200(A02)+0.011(A06)+0.043(A15)
TACAN SET MAD	= +0.366+0.174(A03)-0.159(A18)
A-H REF SET MAD	= +6.371-1.022(A08)-0.074(A12)
RADAR SET MAD	= -139.80-5.896(A02)+0.211(A12)+1.837(A19)

TABLE 1 CONTINUED

REST OF AIRCRAFT SYSTEMS	
RADOME MAD	= $-0.16 + 0.2988(F08)$
WINDSHIELD MAD	= $+73.211 + 0.0069(F03) - 0.7321(F07)$
WINGS MAD	= $-2.8658 + 0.0263(F04)$
SEATS MAD	= $-0.4209 + 0.008(F11)$
MAIN LANDING GEAR MAD	= $-0.834 + 0.002(F03) + 1.126(F06) +$ $+4.505(F13) - 0.021(F22)$
BRAKES MAD	= $+6.6688 - 0.0598(F09)$
STABILATOR MAD	= $-4.7109 + 0.0032(F03) + 0.9834(F06)$
RUDDER MAD	= None
FLAPS MAD	= $-10.1007 + 0.0099(F03) - 0.0082(F04)$ $+2.2542(F06) - 0.2792(F08) + 2.6026(F10)$
WATER SEPARATOR MAD	= $-0.0517 + 0.1196(F08)$
GENERATOR ASSY MAD	= $+0.1755 + 1.0992(F13)$

TABLE 1 CONTINUED

ANTI-COLLISION LIGHTS MAD	= +1.1342+0.2321(F03)-0.4572(F06)
LANDING/TAXI LIGHTS MAD	= -1.4892+0.2112(F03)+32.8196(F13)
HYDRAULIC PUMPS MAD	= +0.8148+0.0009(F04)-0.0630(F11)
FUEL TANKS MAD	= -1.7168+0.6864(F16)
OXYGEN REGULATOR MAD	= +1.4902-0.4519(F03)
LOX CONVERTER MAD	= -0.336+0.1324(F08)
ENGINE FIRE DETECTION MAD	= +0.0686-0.0322(F04)+0.0093(F08)



TABLE 2 OPERATIONAL CHARACTERISTICS MAINTENANCE METRICS MODELS

MAD PER UE PER YEAR = F( OPERATIONAL PARAMETERS )

PROPULSION SYSTEM MAD	= -73.317+0.034(010)-1.013(014)+0.303(027) +11.756(032)+25.771(033)
FLIGHT INDICATORS MAD	= -17.267+0.003(011)+0.002(013)+0.0086(017) +0.020(025)
AIR DATA SYSTEM MAD	= +4.628-0.0017(008)+0.0013(013)-0.312(023)
HSI SET MAD	= +1.378+0.036(014)-0.615(033)
AUTOPILOT MAD	= +7.294-0.0015(008)+0.388(023)
UHF COMM SET MAD	= +10.022-0.002(008)+0.910(013)
IFF TRANSPONDER MAD	= +14.439+0.260(005)-0.017(009)-0.119(012)-0.706(030)
INS SET MAD	= -10.681+0.004(013)
ILS SET MAD	= -0.035+0.0024(015)-0.0044(027)-0.0025(032)
TACAN SET MAD	= -2.056+0.0074(015)+0.425(032)
A-H REF SET MAD	= -13.778+0.112(005)
RADAR SET MAD	= +12.669+0.006(010)-0.0045(011)

TABLE 2 CONTINUED

REST OF AIRCRAFT SYSTEMS	
RADOME MAD	= -10.099+0.104(Ø05)-0.051(Ø12)+0.0062(Ø21) +0.0046(Ø25)
WINDSHIELDS MAD	= +2.6135-0.0056(Ø15)+0.0400(Ø21)-0.0463(Ø27)
WINGS MAD	= +94.2723+0.2681(Ø02)-0.0113(Ø08)+0.0078(Ø10) -0.4550(Ø12)-0.1245(Ø14)-0.0382(Ø17)+0.1199(Ø21)
SEATS MAD	= -2.0778+0.0005(Ø08)+0.0129(Ø12)+0.0032(Ø17) +0.0168(Ø21)-0.0043(Ø25)-0.0307(Ø27)
MAIN LANDING GEAR MAD	= -5.1619+0.0021(Ø10)+2.2407(Ø14)-0.0211(Ø15) +0.0343(Ø16)+0.0218(Ø19)+0.0368(Ø21)-4.6455(Ø32)
BRAKES MAD	= -12.007+2.1964(Ø03)+0.077(Ø05)+0.0059(Ø09) +0.0046(Ø16)-0.0023(Ø20)+0.0138(Ø26)-0.001(Ø31)
STABILATOR MAD	= +1.5652+0.0361(Ø21)-0.0447(Ø27)
RUDDER MAD	= -0.4337+0.0039(Ø15)-0.0015(Ø17)-0.6222(Ø34)
FLAPS MAD	= +13.1908-0.0313(Ø15)+0.1853(Ø21)-0.2099(Ø27)
WATER SEPARATOR MAD	None
GENERATOR ASSY MAD	= -1.7639+0.023(Ø07)+0.0817(Ø32)

TABLE 2 CONTINUED

ANTI-COLLISION = +9.3845-0.0022( $\emptyset$ 11)+0.0079( $\emptyset$ 21)-0.0061( $\emptyset$ 25) LIGHTS MAD -0.0201( $\emptyset$ 27)	
LANDING/TAXI = +3.3516-0.0071( $\emptyset$ 15)+0.0522( $\emptyset$ 21)-0.0597( $\emptyset$ 27) LIGHTS MAD	
HYDRAULIC PUMPS = -1.7478+0.0167( $\emptyset$ 05)+0.0001( $\emptyset$ 06)-0.0002( $\emptyset$ 08) MAD +0.0021( $\emptyset$ 14)-0.1828( $\emptyset$ 32)+0.1715( $\emptyset$ 33)	
FUEL TANKS = +7.8102+0.0014( $\emptyset$ 10)-0.0012( $\emptyset$ 11)-0.0172( $\emptyset$ 15) MAD +0.0145( $\emptyset$ 17)+0.0311( $\emptyset$ 21)-0.0646( $\emptyset$ 27)	
OXYGEN REGULATOR = -0.0196+0.3685( $\emptyset$ 30) MAD	
LOX CONVERTER = -2.041+0.0147( $\emptyset$ 05)-0.0001( $\emptyset$ 06)+0.282( $\emptyset$ 33) MAD	
ENGINE FIRE = None DETECTION MAD	

TABLE 3 ENVIRONMENTAL CHARACTERISTICS MAINTENANCE METRICS MODELS

MAD PER UE PER YEAR = F( ENVIRONMENTAL PARAMETERS )

PROPULSION SYSTEM MAD	= +99.239-1.883(E13)
FLIGHT INDICATORS MAD	= -7.598-0.008(E03)+0.104(E19)
AIR DATA SYSTEM MAD	= -7.571-0.132(E13)+0.146(E19)-0.071(E20)
HSI SET MAD	= -5.866-0.074(E13)+0.039(E18)+0.097(E20)
AUTOPILOT MAD	= +12.681+0.474(E08)-0.057(E18)
UHF COMM SET MAD	= -2.359-0.258(E13)-0.089(E18)+0.118(E19) -0.039(E27)+7.457(E30)
IFF TRANSPONDER MAD	= +2.930+0.012(E06)-0.0535(E09)+0.0042(E31)
INS SET MAD	= -2.203+2.447(E21)
ILS SET MAD	= -0.031+0.025(E20)
TACAN SET MAD	= +0.875+0.007(E03)-0.022(E09) -0.0596(E13)+0.163(E20)
A-H REF SET MAD	= +1.093+0.0255(E27)
RADAR SET MAD	= -17.455-0.233(E13)+0.042(E16) +0.083(E18)+0.284(E20)

TABLE 3 CONTINUED

REST OF AIRCRAFT SYSTEMS	
RADOME MAD	= +5.8181-0.0006(E02)-0.0234(E18)+0.0192(E20)
WINDSHIELD MAD	= +15.5688-0.0722(E18)
WINGS MAD	= -0.5229-0.3386(E13)+1.032(E20)
SEATS MAD	= -3.0919+0.0216(E19)+0.0462(E20)
MAIN LANDING GEAR MAD	= +2.0616+0.3565(E20)
BRAKES MAD	= +0.0304-0.0026(E03)+0.0067(E16)
STABILATOR MAD	-2.8538+0.1942(E20)
RUDDER MAD	= -2.6783-0.0023(E03)-0.0038(E09)+0.0136(E18) +0.0614(E24)
FLAPS MAD	= +18.583-0.1954(E18)+0.2366(E19)
WATER SEPARATOR MAD	= -1.249+0.022(E19)-0.0188(E24)
GENERATOR ASSY MAD	= +0.669-0.0093(E13)

TABLE 3 CONTINUED

ANTI-COLLISION LIGHTS MAD	= +11.0074-0.0007(E02)-0.0046(E03)-0.0257(E18) -0.9807(E30)
LANDING/TAXI LIGHTS MAD	= +6.1366-0.0654(E18)+0.0795(E19)
HYDRAULIC PUMPS MAD	= +0.1558-0.01505(E06)+0.252(E08)
FUEL TANKS MAD	= +5.03+0.009(E16)-0.027(E18)+0.035(E19) -0.064(E23)
OXYGEN REGULATOR MAD	= +6.414+0.0099(E06)+0.0412(E07)-0.0026(E16)+ +0.195(E21)-0.0291(E23)-0.0672(E24)-0.0515 (E27)
LOX CONVERTER MAD	= +0.2299+0.0842(E08)
ENGINE FIRE DETECTION MAD	= -0.2536+0.0006(E16)+0.0026(E19)-0.0017(E24)

TABLE 4 DEFINITION OF GENERIC MODELS' PARAMETERS

EQUIPMENT PARAMETERS	OPERATIONAL PARAMETERS	ENVIRONMENTAL PARAMETERS
<p>P02 = TOTAL NO. OF ENGINES</p> <p>P04 = WT. PER ENGINE</p> <p>A02 = EQUIP. LOCATION ON ACFT.</p> <p>A03 = EQUIP. WT.</p> <p>A04 = EQUIP. VOL.</p> <p>A05 = SRU COUNT</p> <p>A06 = OPERATING TEMP.</p> <p>A07 = COOLING METHOD</p> <p>A08 = PROTECTION DEVICES</p> <p>A09 = NO. OF TEST POINTS</p> <p>A12 = AGE UNRELIABILITY</p> <p>A13 = AVG. OP. TIME PER SORTIE</p> <p>A15 = RETEST OK RATE</p> <p>A16 = ON-OFF CYCLES PER FLT. HR.</p> <p>A18 = GND/FLT OPERATING RATIO</p> <p>A19 = FAILURE/ABORT RATIO</p> <p>F03 = EQUIP. WT.</p> <p>F04 = EQUIP. VOL.</p> <p>F06 = SUPPORT EQUIP. COMPLEXITY</p> <p>F07 = SUPPORT EQUIP. RELIABILITY</p> <p>F08 = TYPE OF FAIL. PROBLEMS</p> <p>F09 = IN-FLT SQUAWK VERIF. RATE</p> <p>F11 = GRD TO FLT OP. RATIO</p> <p>F13 = REMOVALS TO ACCESS OTHER EQUIP.</p> <p>F16 = EQUIP. PROTECTION METHODOLOGY</p>	<p>Ø05 = AVG. TAKE-OFF SPEED</p> <p>Ø08 = AVG. CLIMB RATE</p> <p>Ø09 = AVG. CRUISE SPEED</p> <p>Ø10 = AVG. CRUISE ALTITUDE</p> <p>Ø11 = AVG. DESCENT RATE</p> <p>Ø12 = AVG. LANDING SPEED</p> <p>Ø13 = MIN LANDING DISTANCE</p> <p>Ø14 = AVG. LANDING WT.</p> <p>Ø15 = TOTAL FLT. HR. PER ACFT.</p> <p>Ø17 = OPS. FLT. HR. PER ACFT.</p> <p>Ø18 = MISC. FLT. HR. PER ACFT.</p> <p>Ø23 = AVG. NO. ALERT ACFT.</p> <p>Ø25 = TOTAL SORTIES PER AIRCRAFT</p> <p>Ø27 = OPS. SORTIES PER ACFT.</p> <p>Ø30 = MAX ACFT. SPEED</p> <p>Ø32 = ACFT. CREW SIZE</p> <p>Ø33 = AVG. SORTIE LENGTH</p> <p>Ø03 = AVG. MISSION MIX</p> <p>Ø06 = MEDIAN TAKE-OFF DISTANCE</p> <p>Ø07 = PERCENT OF MAX. TAKE-OFF WT.</p> <p>Ø19 = TOTAL LANDINGS PER ACFT.</p> <p>Ø21 = OP. LANDINGS PER ACFT.</p> <p>Ø26 = TRAINING SORTIE PER ACFT.</p> <p>Ø31 = SERVICE ACFT CEILING</p> <p>Ø34 = ACCIDENTS (MAJOR/MINOR) PER ACFT.</p> <p>Ø16 = TRAINING FLYING HR PER ACFT</p> <p>Ø20 = TNG LANDINGS PER ACFT</p>	<p>E03 = RUNWAY DIRECTION</p> <p>E06 = NO. OF SNOW DAYS</p> <p>E08 = MEAN SNOW DEPTH</p> <p>E09 = NO. RAIN DAYS</p> <p>E13 = NO. THUNDER DAYS</p> <p>E16 = PREDOMINATE WIND DIRECTION</p> <p>E18 = MAX CROSSWINDS 10-19 MPH DAYS</p> <p>E19 = MAX CROSSWINDS 20-29 MPH DAYS</p> <p>E20 = MAX CROSSWINDS 30-39 MPH DAYS</p> <p>E21 = MAX CROSSWINDS 40-49 MPH DAYS</p> <p>E27 = MIN TEMP. BELOW 32°F DAYS</p> <p>E30 = AVG. VISION OBSTRUCTION TYPE</p> <p>E31 = AVG. OBSTRUCTION SEVERITY</p> <p>E07 = TOTAL SNOW FALL</p> <p>E24 = MEAN MIN. TEMP.</p> <p>E23 = MEAN TEMP.</p>

subtask (5) of Figure 2 and resulted in the derivation of thirty composite Maintenance Metrics and Weightings Models for the estimation of maintenance action demand. The form of the models is as follows:

$$\begin{aligned} \text{MAD} = & A + (B_1 \text{Equip Param}_1 + \dots + B_m \text{Equip Param}_m) + \\ & + (C_1 \text{Opnl Param}_1 + \dots + C_n \text{Opnl Param}_n) + \dots \\ & \dots + (D_1 \text{Environ Param}_1 + \dots + D_p \text{Environ Param}_p). \end{aligned}$$

Table 5 lists each subsystem's composite MAD estimating equation and Table 6 lists and defines the Parameter I.D. Numbers included in the equations of Table 5. Appendix D presents each of the composite model equations as listed in Table 5 along with corresponding evaluation statistics and remarks as to possible reasons for the appearance of specific parameters in the equation.

#### 4. DEVELOPMENT OF LCOM FAILURE CLOCK CALCULATION ROUTINE

The maintenance action demand estimations obtained from the Maintenance Metrics and Weightings Models discussed in II.2 and II.3 are in terms of maintenance actions per unit equipment per year. One of the principle requirements of Tasks VI and VII is to translate these estimations into Failure Clock values for control of LCOM subsystem maintenance networks. Since these F-clock values are usually some derivative of "number of sorties to maintenance action," a computational routine for accomplishing this translation is required. Figure 3 is a process flow depicting this routine. The detailed procedure for accomplishing the F-clock transformation follows.

#### PROCEDURE FOR TRANSFORMING PRESENT LCOM FAILURE CLOCK VALUES TO CONFORM WITH MAINTENANCE METRICS MODEL ESTIMATES

- (1) Determine actual historical time period used to derive present LCOM values.
- (2) Determine actual maintenance action demand (AMAD) of item of interest during that time period.
- (3) Determine appropriate "operating point"<sup>1</sup> values for item's Metrics Model regression variables. These values may either be derived from historic design and scenario data or from new simulated design and scenario data as appropriate depending on the nature of the simulation experiments to be performed.
- (4) Compute estimated maintenance action demand (EMAD) for the same historic time period using Maintenance Metrics Regression Model.
- (5) Compute ratio of EMAD to AMAD.



TABLE 5 COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODELS

MAD PER UE PER YEAR = F( EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL PARAMETERS )

PROPULSION SYSTEM MAD	= -57.675+0.244(P02)+0.055(P04)+0.021(Ø10) +0.203(Ø27)-0.798(Ø32)+7.509(Ø33)
FLIGHT INDICATORS MAD	= - 4.658+0.398(A03)+0.00004(Ø13)+0.0016(Ø17) -0.0036(E03)+0.045(E19)
AIR DATA SYSTEM MAD	= - 1.975+0.023(A03)-0.035(A16)-0.0008(Ø08) +0.0005(Ø13)-0.071(Ø23)-0.046(E13)+0.063(E19)
HSI SET MAD	= -14.292+0.751(A07)+1.003(A16)-0.049(Ø14) +3.020(Ø33)+0.177(E20)
AUTOPILOT MAD	= +21.944-0.481(A03)+0.0159(A04)-1.496(A13) -0.258(A19)-0.0004(Ø08)+0.637(Ø23)+0.016(E18)
UHF COMM SET MAD	= -101.62-0.208(A03)+1.011(A05)-0.016(Ø08) +6.732(Ø18)+1.415(E18)+0.419(E19)-60.986(E30)
IFF TRANSPONDER MAD	= + 0.890+0.602(A02)-0.026(A09)-0.813(Ø30) +0.0078(E09)
INS SET MAD	= - 0.034+0.346(A05)
ILS SET MAD	= - 1.128+0.025(A06)+0.0040(Ø15)-0.0074(Ø27) -0.025(E20)
TACAN SET MAD	= - 1.843+0.061(A03)-0.044(A18)+0.099(Ø32) +0.0058(E03)-0.017(E09)+0.142(E20)
A-H REF SET MAD	= -11.435-1.967(A08)+0.155(Ø05)-0.056(E27)
RADAR SET MAD	= -163.53-7.695(A02)+0.209(A12)+2.017(A19) +0.0013(Ø11)+0.271(E13)+0.138(E20)

TABLE 5 CONTINUED

REST OF AIRCRAFT SYSTEMS	
RADOME MAD	= -2.299+0.058(F08)+0.0274(Ø05)+0.0125(Ø21) -0.078(E20)
WINDSHIELD MAD	= +18.2433-0.099(F07)-0.0053(Ø15)+0.0309(Ø21) -0.0371(Ø27)-0.0289(E18)
WINGS MAD	= -27.4212+ .0205(F04)-0.0063(Ø08)+0.5034(Ø12) -0.0962(Ø14)+0.0157(Ø21)-0.3339(E13)+0.2438 (E20)
SEATS MAD	= -4.6375+0.0010(Ø08)+0.0493(Ø12)+0.0086(Ø17)+ +0.024(Ø21)-0.010(Ø25)-0.0538(Ø27)-0.0245 (E19)
MAIN LANDING GEAR MAD	= -3.8152+1.1603(F06)+1.7355(F13)+0.0389(Ø14) +0.0101(Ø19)+0.0013(F03)
BRAKES MAD	= -31.3801+0.1277(F09)+2.0431(Ø03)+0.1902(Ø05) +0.0017(Ø26)-0.0017(Ø31)-0.008(E03)
STABILATOR MAD	= -2.469+0.0023(F03)+0.8617(F06)+0.0141(Ø21)- -0.0872(E20)
RUDDER MAD	= +0.2636+0.0022(Ø15)-1.9625(Ø34)-0.0013(E03)
FLAPS MAD	= +48.3324+0.010(F03)+0.967(F06)-0.618(F08)- -0.023(Ø15)+0.007(Ø27)-0.224(E18)+0.049(E19)
WATER SEPARATOR MAD	= -1.249+0.022(E19)-0.0188(E24)
GENERATOR ASSY MAD	= -1.290+0.904(F13)+0.018(Ø07)

TABLE 5 CONTINUED

ANTI-COLLISION LIGHTS MAD	= +27.614-0.1434(F03)+1.070(F06)-0.010(Ø11)- -0.019(Ø21)-0.038(Ø25)-0.084(Ø27)+3.971(E30)
LANDING/TAXI LIGHTS MAD	= +4.937+0.280(F03)+18.60(F13)-0.006(Ø15)- -0.0498(E18)+0.051(E19)
HYDRAULIC PUMPS MAD	= +1.0089-0.031(F11)-0.0001(Ø08)-0.005(Ø14)- -0.026(Ø32)+0.288(Ø33)+0.013(E06)-0.079(E08)
FUEL TANKS MAD	= +12.353+0.080(F16)+0.0003(Ø10)-0.0078(Ø15)+ +0.0169(Ø21)-0.019(Ø27)-0.060(E18)+0.027(E19)
OXYGEN REGULATOR MAD	= +5.476-0.121(F03)-0.356(Ø30)+0.038(E06)+ +0.026(E07)+0.181(E21)-0.081(E24)-0.065(E27)
LOX CONVERTER MAD	= -2.4302+0.058(F08)+0.016(Ø05)-0.0001(Ø06)+ +0.168(Ø33)
ENGINE FIRE DETECTION MAD	= -0.316-0.006(F08)+0.0006(E16)+0.004(E19)- -0.0017(E24)

TABLE 6 DEFINITION OF COMPOSITE MODELS' PARAMETERS

EQUIPMENT PARAMETERS	P02 = TOTAL NO. OF ENGINES
	P04 = WT. PER ENGINE
	A02 = EQUIP. LOCATION ON ACFT.
	A03 = EQUIP. WT.
	A04 = EQUIP. VOL.
	A05 = SRU COUNT
	A06 = OPERATING TEMP.
	A07 = COOLING METHOD
	A08 = PROTECTION DEVICES
	A09 = NO. OF TEST POINTS
	A12 = AGE UNRELIABILITY
	A13 = AVG. OP. TIME PER SORTIE
	A16 = ON-OFF CYCLES PER FLT. HR.
	A18 = GND/FLT OPERATING RATIO
	A19 = FAILURE/ABORT RATIO
	F03 = EQUIP. WT.
	F04 = EQUIP. VOL.
	F06 = SUPPORT EQUIP. COMPLEXITY
	F07 = SUPPORT EQUIP. RELIABILITY
	F08 = TYPE OF FAILURE PROBLEMS
OPERATIONAL PARAMETERS	F09 = IN-FLT SQUAWK VERIFICATION RATE
	F11 = GRD TO FLT OP. RATIO
	F13 = REMOVALS TO ACCESS OTHER EQUIP.
	F16 = EQUIP. PROTECTION METHODOLOGY
	Ø05 = AVG. TAKE-OFF SPEED
	Ø08 = AVG. CLIMB RATE
	Ø10 = AVG. CRUISE ALTITUDE
	Ø11 = AVG. DESCENT RATE
	Ø13 = MIN LANDING DISTANCE
	Ø14 = AVG. LANDING WT.
	Ø15 = TOTAL FLT. HR. PER ACFT.
	Ø17 = OPS. FLT. HR. PER ACFT.
	Ø18 = MISC. FLT. HR. PER ACFT.
	Ø23 = AVG. NO. ALERT ACFT.
	Ø27 = OPS. SORTIES PER ACFT.
	Ø30 = MAX ACFT. SPEED
	Ø32 = ACFT. CREW SIZE
	Ø33 = AVG. SORTIE LENGTH
	Ø03 = AVG. MISSION MIX
	Ø06 = MEDIAN TAKE-OFF DISTANCE
	Ø07 = PERCENT OF MAX. TAKE-OFF WT.
	Ø19 = TOTAL LANDINGS PER ACFT.
	Ø21 = OP. LANDINGS PER ACFT.
	Ø26 = TRAINING SORTIE PER ACFT.
	Ø31 = SERVICE ACFT CEILING
	Ø34 = ACCIDENTS (MAJOR/MINOR) PER ACFT.
	Ø12 = AVG. LANDING SPEED
	Ø25 = TOTAL SORTIES PER AIRCRAFT

TABLE 6 CONTINUED

ENVIRONMENTAL  
PARAMETERS

E03 = RUNWAY DIRECTION  
E09 = NO. RAIN DAYS  
E13 = NO. THUNDER DAYS  
E18 = MAX CROSSWINDS 10-19 MPH DAYS  
E19 = MAX CROSSWINDS 20-29 MPH DAYS  
E20 = MAX CROSSWINDS 30-39 MPH DAYS  
E27 = MIN TEMP. BELOW 32°F DAYS  
E30 = AVG. VISION OBSTRUCTION TYPE  
E31 = AVG. OBSTRUCTION SEVERITY  
E07 = TOTAL SNOW FALL  
E24 = MEAN MIN. TEMP.  
E06 = NO. OF SNOW DAYS  
E08 = MEAN SNOW DEPTH  
E16 = PREDOMINATE WIND DIRECTION  
E21 = MAX. CROSSWINDS 40-49 MPH DAYS

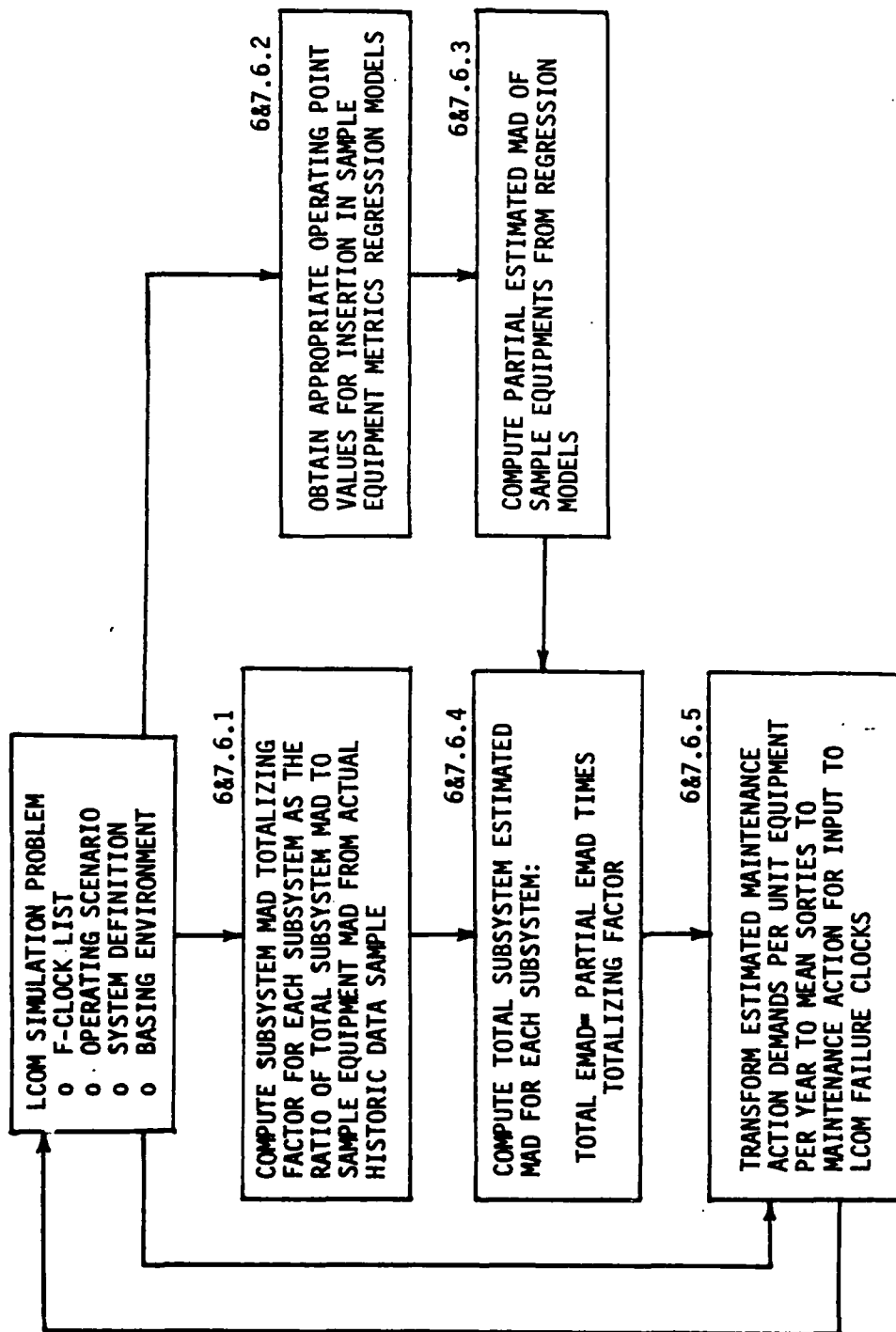


FIGURE 3 LCOM FAILURE CLOCK COMPUTATION PROCESS FLOW

- (6) Multiply present clock values (or decrement value if appropriate) by the EMAD/AMAD ratio to transform clock value to the Maintenance Metric based estimate.<sup>2</sup>

NOTES:

- 1 - Operating point is defined here as the system of design, operational, support, and environmental conditions applicable to the item-of-interest. This may be some actual historic operating point featuring retrospective data, an estimated operating point featuring prospective data, or a mixture of the two.
- 2 - The Maintenance Metrics Models are of greatest value when performing prospective simulation and analyses on new systems and/or new scenarios. Under these conditions it is postulated that they will provide better results than simplistic projections of historic failures per sortie or per flying hour. If, however, an exact historical scenario is being simulated (a retrospective analysis of what actually happened), the historical data should provide better results than the "fitted" Maintenance Metrics estimates.

The requirement for and explanation of this rather complicated procedure is as follows.

The generic and composite Maintenance Metrics and Weightings regression equations developed for the study were based on a sampling of the critical equipment items in each aircraft subsystem. Critical equipments are considered to be those items (usually only one or two) within a subsystem which drive the maintenance resource demands of that subsystem and may be used to represent the total subsystem without serious degradation of maintenance metrics analysis results. Critical equipments rather than total subsystems were used for maintenance metrics development because the far greater time and resources required for the data gathering and analysis of each item in each subsystem could not be justified in terms of the increased accuracy of the metrics developed (Refer to document D194-10089-1, Analysis and Evaluation, for a discussion of subsystem equipment selection). Therefore, as shown in Figure 3 and the procedure, transforming the outputs of the regression models to F-clock values provides for scaling the partial MAD estimates based on the selected equipment items up to total subsystem MAD estimates for LCOM network control, since the LCOM maintenance networks are structured at the subsystem level and the F-clock values are based on total subsystem demands. This is accomplished through the utilization of an actual sample of historical maintenance action demand data for the subsystems (or similar subsystems if new equipment) being analyzed and simulated. This actual data is used to calculate a ratio factor of total subsystem MAD to selected equipment sample MAD. This total subsystem MAD scale factor can then be applied to the partial MAD estimates computed from the regression models of the new aircraft and/or basing situation being simulated to yield total subsystem MAD estimates for translation into F-clock values at the LCOM maintenance network level. The last step in the translation process is to obtain an estimate of sorties per year to be accomplished (usually obtained from the simula-

tion scenario) and to calculate the sorties-to-failure values corresponding to each subsystem MAD per year. Figure 4 is a sample of the calculation work sheet to be used for the F-clock computation routine. An example of a typical F-clock transformation routine follows.

#### EXAMPLE OF FAILURE CLOCK TRANSFORMATION PROCEDURE:

Assume that there exists a failure clock for the F15A Flight Indicators Subsystem (WUC-51A) which is based on 1977 maintenance demand and sortie data from Bitburg.

Step 1 Derivation time period = 1977

Step 2 Actual maint. action demand (AMAD) for WUC-51A:  
(LCOM definition AMAD per system per year)  
(Source: AFM 66-1 data for 1977)

LCOM Task Code R = 46 actions/32 systems = 1.43750  
LCOM Task Code M = 20 actions/32 systems = 0.62500  
LCOM Task Code H = 11 actions/32 systems = 0.34375  
Total 1977 AMAD (LCOM Definition) = 2.40625

Step 3 1977 values for significant F15A (WUC-51A) Maintenance Metrics  
Regression Model variables (Bitburg data):

Equipment Variables:

A03, Equipment Weight . . . . . 0.72 lbs.

Operations Variables:

O13, Minimum Landing Distance. . . . . 3750.00 feet

O17, Operations Flying Hours per Aircraft. . 223.53 hrs./yr.

Environmental Variables:

E03, Runway Direction . . . . . 240.00 compass deg.

E19, Maximum Crosswinds 20-29 mph . . . . . 106.00 days/yr.

Step 4 Estimated maint. action demand (EMAD) for WUC-51A:  
(F-15A Bitburg Situation, 1977)

WUC-51A Maint. Metrics Regress Model:  
(Derived from data for WUCs 51AD, 51AH, and 51AK)

EMAD =  $-4.65791 + (0.39813)(0.72) + (0.00036)(3750.0) +$   
 $\dots + (0.00159)(223.53) - (0.00361)(240.0) + (0.04497)(106.0)$   
EMAD(for 51AD, 51AH, 51AK) = 1.23458 actions per year

AMAD(for 51AD, 51AH, 51AK) = 0.88 actions per yr (from 66-1 data)

Ratio of total 51A AMAD to partial AMAD above:  
 $2.40625 / 0.88 = 2.73$

Total 51A EMAD =  $(2.73)(1.23458) = 3.376$

Step 5 Ratio of total WUC-51A EMAD to AMAD  
 $3.376 / 2.406 = 1.403$



Where:

- WUC = Work Unit Code
- LCOM F Clock = Clock I.D. Number
- R = Maintenance Task Code (Remove)
- M = Maintenance Task Code (Fix in place)
- H = Maintenance Task Code (Check OK)
- MAD = Maintenance Action Demand
- AMAD = Actual Maintenance Action Demand
- Xn = Significant Equipment, Operational,
- PEMAD = Partial Estimated Maintenance Action Demand
- PAMAD = Partial Actual Maintenance Action Demand
- EMAD = Estimated Maintenance Action Demand

### FIGURE 4 LCOM FAILURE CLOCK CALCULATION WORKSHEET

#### EXAMPLE (continued)

##### Step 6 Transformation of present failure clock value:

Assume that the present WUC-51 failure clock value is based on sorties per failure for the year 1977 with no allowance for peak sortie rate or peak failure rate periods.

Then--Sorties per Failure = Total Sorties per Acft/Total AMAD per unit  
= 174.53/2.406  
= 72.54

Set F clock at 73 sorties to failure

Transformed F clock value = (EMAD/AMAD)(Present Clock Value)  
= (1.403)(72.54)  
= 101.77

Set new F clock value at 102 sorties to failure

The effort to develop a F-clock computation routine is shown as subtask (6) on Figure 2. Subtask (7) indicates the documentation effort for Tasks VI and VII including this document. The results of the Maintenance Metrics and Weightings development feed the experimental LCOM studies performed under this contract as shown on Figure 2.

#### 5. DEVELOPMENT OF MAINTENANCE TASK PROBABILITY ESTIMATING MODELS

The last subtask to be accomplished within the Task VI and VII effort was the development of an estimating method for the maintenance task selection probabilities necessary for the control of the LCOM maintenance networks. This effort is shown as subtask (8) of Figure 2 and the process flow for this subtask is depicted by Figure 5. As shown in Figure 5, task frequency data was extracted from the data base collected in study task IV (document D194-10089-1). This data was extracted at both the subsystem and included equipment levels for each data case of the study (aircraft/base combination) for each of the thirty aircraft subsystems studied. The data were then utilized to compute weighted average maintenance task selection probabilities for each subsystem/aircraft/base combination. The weighting factors were based on the ratio of frequency of maintenance of each equipment item within a given subsystem to the frequency of maintenance of the subsystem as a whole. It is necessary to weight the task frequencies of the component equipments because the equipment items within a subsystem do not fail with equal frequency and therefore the task distributions on the various subsystem components must be weighted according to each's proportion of total subsystem failures. Appendix E contains data and calculation tables for the weighted average task selection probabilities for each subsystem/aircraft/base combination analyzed during the study.

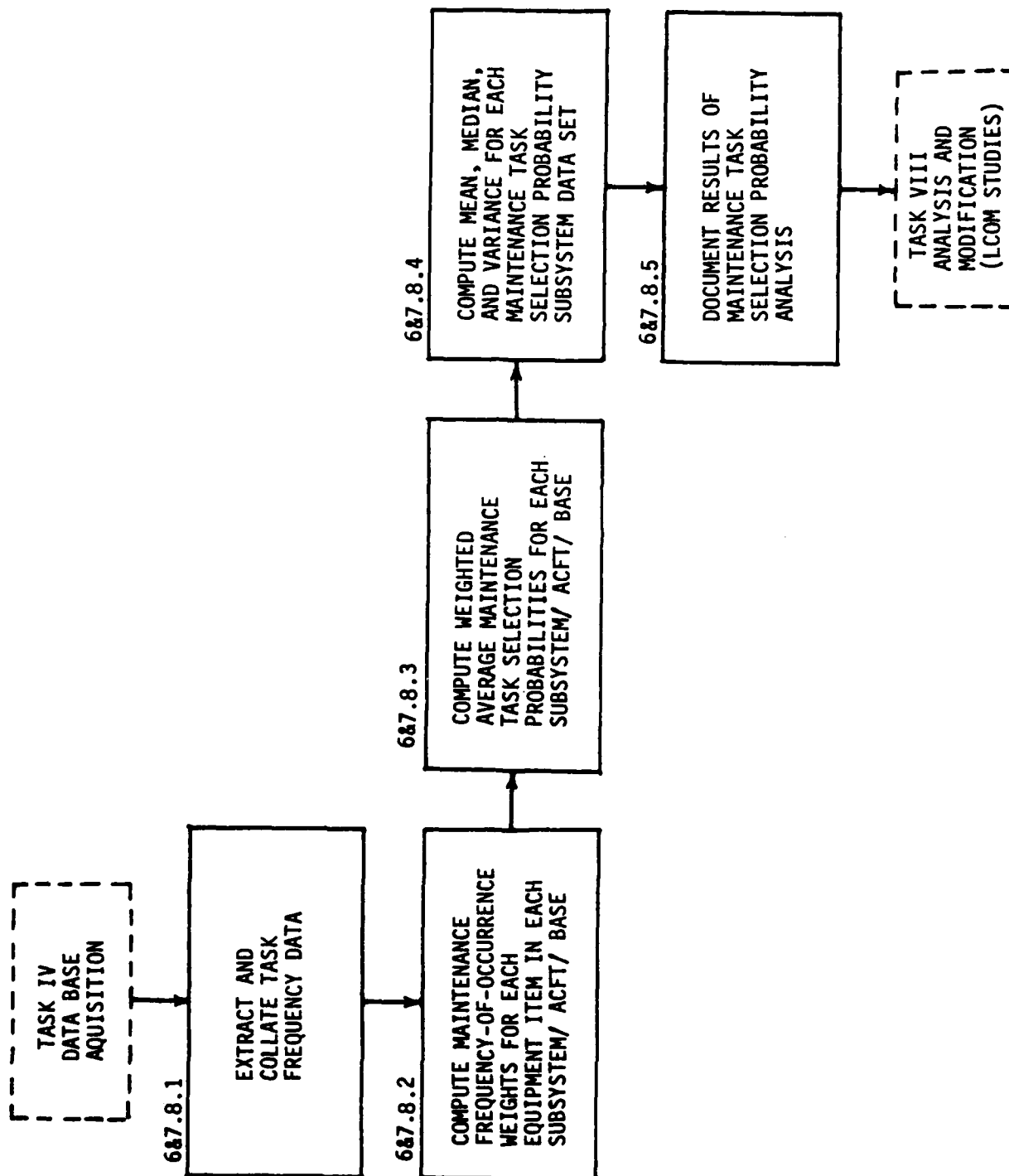


FIGURE 5 MAINTENANCE TASK SELECTION PROBABILITY PROCESS FLOW

The weighted average task selection probabilities discussed above were then assembled in summary data sets by subsystem and the mean, median, mode and variance of the probability of occurrence of each task type computed for each aircraft subsystem. These resulting statistics are contained in Appendix F and can now be used to estimate the expected task selection probability distributions required for control of the various subsystem maintenance networks in LCOM simulation problems. Figure 6 is an overview of the foregoing analysis process. Table 7 presents a summary of the resulting mean task selection probability distributions for the various subsystems.

- DEVELOP MEAN PROBABILITY PREDICTIONS FOR LCOM MAINTENANCE NETWORK TASK ALTERNATIVES

ON EQUIP TASK ALTERNATIVES

OFF EQUIP TASK ALTERNATIVES

(H) CHECK OK PROBABILITY

(M) FIX IN PLACE PROBABILITY

(R) REMOVE/REPLACE PROBABILITY

(N) NOT REPAIRABLE PROBABILITY

(K) BENCH CHECK OK PROBABILITY

(W) FIX IN SHOP PROBABILITY

- FOR EACH AIRCRAFT SUBSYSTEM LCOM NETWORK - - -
  - COMPUTE WEIGHTED AVERAGE TASK PROBABILITIES BASED ON HISTORICAL MAINTENANCE TASK DATA WEIGHTED BY SUBSYSTEM COMPONENT RELATIVE FAILURE FREQUENCY DATA.
  - COMPUTE MEAN, MEDIAN, AND VARIANCE OF WEIGHTED AVERAGE TASK PROBABILITIES ACROSS ALL AIRCRAFT/BASE COMBINATIONS STUDIED.
- USE MEAN TASK PROBABILITY ANALYSIS RESULTS TO PREDICT EXPECTED MAINTENANCE TASK SELECTION PROBABILITIES FOR NEW SYSTEMS.

FIGURE 6 MAINTENANCE TASK SELECTION PROBABILITY ANALYSIS OVERVIEW

TABLE 7 SUMMARY OF MEAN TASK SELECTION PROBABILITY DISTRIBUTIONS

AIRCRAFT EQUIPMENT SUBSYSTEM	ON EQUIPMENT MEAN TASK PROBABILITY DISTRIBUTION			OFF EQUIPMENT MEAN TASK PROBABILITY DISTRIBUTION		
	R REMOVE	M FIX	H CHK OK	N SENT ON	K CHK OK	W FIX
23000 Propulsion	0.339	0.536	0.125	0.388	0.138	0.474
51A00 Flight Indicators	0.571	0.343	0.086	0.768	0.146	0.086
51E00 Air Data System	0.414	0.436	0.150	0.509	0.205	0.286
51N00 Horizontal Situation Indic.	0.586	0.226	0.188	0.699	0.149	0.152
52A00 Autopilot	0.573	0.208	0.219	0.354	0.246	0.400
63A00 UHF Communication Set	0.529	0.343	0.128	0.168	0.120	0.712
65A00 IFF Transponder Set	0.540	0.219	0.241	0.105	0.232	0.663
71A00 Inertial Navigation Set	0.390	0.119	0.491	0.343	0.171	0.486
71C00 Instrument Landing Set	0.421	0.310	0.269	0.069	0.158	0.773
71D00 TACAN Set	0.650	0.174	0.176	0.182	0.200	0.618
71F00 Attitude-Heading Ref. Set	0.650	0.157	0.193	0.661	0.193	0.146
74F00 Radar Set	0.496	0.183	0.321	0.220	0.113	0.667
11A01 Radome Assembly	0.147	0.837	0.016	0.067	0	0.933
11A02 Windshield	0.142	0.820	0.038	0.124	0	0.876
11K00 Wings	0.128	0.859	0.013	0.056	0.038	0.906
12B00 Cockpit Furnishings	0.154	0.775	0.071	0.450	0.009	0.541
13A00 Main Landing Gear	0.713	0.014	0.273	0.317	0.548	0.135
13D00 Brake Subsystem	0.373	0.424	0.203	0.425	0.188	0.387
14C00 Stabilator Subsystem	0.163	0.716	0.121	0.424	0.116	0.460
14D00 Rudder Subsystem	0.201	0.534	0.265	0.307	0.159	0.534
14H00 Flap Subsystem	0.154	0.620	0.226	0.412	0.013	0.575
41A00 Environmental Control System	0.499	0.408	0.093	0.404	0.062	0.534
42A00 Electric Power Gen. System	0.391	0.569	0.040	0.445	0.193	0.362
44A01 Navigation Lights	0.440	0.549	0.011	0.174	0.028	0.798
44A02 Landing/Taxi Lights	0.365	0.628	0.007	0.285	0.027	0.688
45A00 Hydraulic Power System	0.257	0.599	0.144	0.532	0.252	0.216
46A00 Internal Fuel Subsystem	0.187	0.661	0.152	0.683	0.050	0.267
47A01 Oxygen Regulator	0.656	0.258	0.086	0.923	0.024	0.053
47A0a LOX Converter	0.545	0.372	0.083	0.772	0.145	0.083
49A00 Fire Detection System	0.338	0.606	0.056	0.550	0.182	0.268

### III - CONCLUSION

#### 1. SYNOPSIS

This report describes the work accomplished under combined Tasks VI and VII of an eight task study to: "Develop Maintenance Metrics To Forecast Resource Demands of Weapon Systems." The work discussed in this interim report was accomplished between 1 November 1978 and 1 October 1979 for study Phase I (examination of aircraft avionics and engines) and continuing to 1 January 1980 for study Phase II (examination of remaining aircraft systems). The purpose of Tasks VI and VII was to determine the equipment, operations, and environmental parameters which are necessary and sufficient to estimate the maintenance demands of aircraft weapon systems, and relate these in more accurate metrics and weightings for control of the Air Force Logistics Composite Model (LCOM) maintenance networks. To this end, the historical and analytical data base assembled during the first five tasks of this study was utilized to derive regression models which relate each aircraft subsystem's maintenance action demand to significant equipment, operational, and environmental parameters as follows:

MAD = F (Significant Equipment Parameters).  
MAD = F (Significant Operational Parameters).  
MAD = F (Significant Environmental Parameters).  
MAD = F (Significant Equipment, Operational, and Environmental Parameters).

The data base was also used to generate expected maintenance task selection probability distributions for each aircraft subsystem.

Results of work accomplished during the Task VI and VII effort and included in this report are: 1) development of 90 generic Maintenance Metrics and Weightings Models (three for each aircraft subsystem) which relate MAD to equipment, operational, and environmental characteristics respectively; 2) development of 30 composite Maintenance Metrics and Weightings Models (one for each aircraft subsystem) which relate MAD to a combination of equipment, operational, and environmental characteristics; 3) development of methodology to convert the estimated MAD values to the Failure Clock values required to drive the LCOM maintenance networks; and 4) development of 30 expected Maintenance Task Selection Probability Distributions and accompanying statistics (one for each aircraft subsystem). These estimation and prediction models are now available for use in the accomplishment of Task VIII of this study and for related future research and system evaluation.

#### 2. PROBLEMS, ASSUMPTIONS, AND UNCERTAINTIES

No significant operational problems were encountered during work on Tasks VI and VII. All intended work was accomplished on schedule and within the resources budgeted for this portion of the study.

Some discussion of assumptions made, source data sufficiency, and relevant range limitations in the development and use of the Maintenance Metrics and Weightings Models is appropriate in conclusion.

The following assumptions were made in the course of model development:

- (1) that the assembled data base measurements of actual historic states and rates were accurate and unbiased,
- (2) that each data case value was a member of a continuous normal distribution of possible values for that data case (a necessary condition for regression analysis),
- (3) that each major independent variable appearing in each regression model is unrelated to and on-interacting with the other independent variables in the model (most models do contain minor variables that interact with the major variables to "fine-tune" the model),
- (4) that the range of values represented by the nine case data samples acquired encompassed essentially the full range of possible U. S. Air Force-wide values for equipment, operational, and environmental characteristics.

The last assumption above deals with the problem of sufficiency of data. This is an uncertainty which is present in every statistical analysis undertaken. It is generally agreed among analysts that a data sample of from 30 to 50 cases will yield a sufficiently accurate estimating equation for all but the most rigorous applications. The rather sparse sample of nine cases as used in this study, although yielding less accurate models than a more comprehensive sample, still should produce estimating and prediction results which improve on present methods of predicting the maintenance demands of new weapon systems and/or basing concepts. Care was taken in choosing the sample cases to include the widest possible variety of aircraft technology, operational concepts, and environmental conditions. The increase in research time and resource expenditures necessary to acquire a comprehensive Air Force-wide/world-wide data sample of 30 or so cases was not considered cost-effective for this preliminary metrics model development effort in terms of absolute model accuracy improvement.

The attention to securing a wide-range data sample as noted above allows the application of the developed metrics models to a wide range of equipment technologies and environments with a high degree of confidence that the relevant ranges of the regression will not be exceeded. The models should yield useful results for technology ranges from approximately circa 1960 to present production state-of-the-art; for such diverse operations as training, tactical fighters, strategic bombers, and military airlift; and for environments from hot and dry/wet to cold and dry/wet.



In conclusion, the models as developed are easy to use and are in a form to facilitate immediate application to research problems that require the estimation of aircraft subsystem maintenance demands.

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### GLOSSARY OF ABBREVIATIONS

AB	Air Base
ACFT	Aircraft
AFB	Air Force Base
AFHRL	Air Force Human Resources Laboratory
AFMEA	Air Force Management Engineering Agency
BMW	Bomb Wing
EAC	Experience Analysis Center
EMAD	Estimate of Maintenance Action Demand
ENVIRON	Environment
EQUIP	Equipment
F-Clock	Failure Clock
FTW	Fighter Training Wing
I/O	Input/Output
LCOM	Logistic Composite Model
MAD	Maintenance Action Demand
MADIER	Maintenance Action Demand Impact Estimating Relationship
MAW	Military Airlift Wing
MIER	Maintenance Impact Estimating Relationship
OPNL	Operational
O&S	Operations and Support
PARAM	Parameter
TAC	Tactical Air Command
TFW	Tactical Fighter Wing

GLOSSARY OF ABBREVIATIONS

(cont'd)

TR	Technical Report
TTW	Tactical Training Wing
WUC	Work Unit Code

# APPENDIX A

## SIGNIFICANT PARAMETER DATA SETS FOR GENERIC MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT

### SIGNIFICANT EQUIPMENT PARAMETER DATA SETS

<u>SYSTEM</u>		<u>TABLE</u>
23000	Propulsion . . . . .	A-1
51A00	Flight Indicators . . . . .	A-2
51E00	Air Data System . . . . .	A-3
51N00	Horizontal Situation Indicator . . . . .	A-4
52A00	Autopilot . . . . .	A-5
63A00	UHF Communication Set . . . . .	A-6
65A00	IFF Transponder Set . . . . .	A-7
71A00	Inertial Navigation Set . . . . .	A-8
71C00	Instrument Landing Set . . . . .	A-9
71D00	TACAN Set . . . . .	A-10
71F00	Attitude-Heading Reference Set . . . . .	A-11
74F00	Radar Set . . . . .	A-12
11A01	Radome . . . . .	A-13
11A02	Windshield . . . . .	A-14
11K00	Wings . . . . .	A-15
12B00	Cockpit Furnishings . . . . .	A-16
13A00	Main Landing Gear . . . . .	A-17
13D00	Brakes . . . . .	A-18
14C00	Stabilator . . . . .	A-19
14D00	Rudder . . . . .	A-20
14H00	Flaps . . . . .	A-21
41A00	Environmental Control . . . . .	A-22
42A00	Aircraft Power Generation . . . . .	A-23
44A01	Navigation/Anti-Collision Lights . . . . .	A-24
44A02	Landing/Taxi Lights . . . . .	A-25
45A00	Hydraulic Power . . . . .	A-26
46A00	Internal Fuel Tanks . . . . .	A-27
47A01	Oxygen Regulator . . . . .	A-28
47A02	LOX Converter . . . . .	A-29
49A00	Overheat/Fire Detection and Extinguishing . . . . .	A-30

# APPENDIX A (Continued)

## SIGNIFICANT PARAMETER DATA SETS FOR GENERIC MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT

### KEY TO SIGNIFICANT EQUIPMENT PARAMETERS CONTAINED IN DATA SETS

<u>I.D. NO.</u>	<u>PARAMETER</u>	<u>DIMENSION</u>
P02	Total Number of Engines . . . . .	No./Acft
P04	Weight per Engine . . . . .	Lbs ÷ 10
P05	Volume per Engine . . . . .	Cubic Feet
A02	Equipment Location on Aircraft. . . . .	Scaled Value
A03	Equipment Weight. . . . .	Pounds
A04	Equipment Volume. . . . .	Cu. In.
A05	SRU Count . . . . .	No. SRUs in Equip. Item
A06	Operating Temperature . . . . .	Scaled Value based on OF
A07	Cooling Method. . . . .	Scaled Value
A08	Protection Devices. . . . .	Scaled Value
A09	Number of Test Points . . . . .	No. T.P. available to Org. Maint.
A10	Complexity of Required AGE. . . . .	Scaled Value
A11	AGE Availability. . . . .	Percent Time Avail. When Needed
A12	AGE Unreliability . . . . .	Percent
A13	Average Operating Time per Sortie . . . . .	Hours
A15	Retest OK Rate. . . . .	Percent
A16	On-Off Cycles per Flight Hour . . . . .	No./10 Flying Hours
A18	Ground/Flight Operating Ratio . . . . .	Percent
A19	Failure/Abort Ratio . . . . .	Percent
F03	Equipment Weight. . . . .	Pounds
F04	Equip. Volume (Equip. Area if Appropriate). . . . .	Cu. Ft. or Cu. In. or Sq. Ft.
F06	Support Equipment Complexity. . . . .	Scaled Value
F07	Support Equipment Reliability . . . . .	Percent
F08	Type of Failure Problems. . . . .	Scaled Value
F09	Inflight Squawk Verification Rate . . . . .	Percent
F10	On-Off Cycles per Sortie. . . . .	Cycles/Sortie
F11	Ground to Flight Operating Ratio. . . . .	Percent
F13	Removals to Access Other Equipment. . . . .	No./Acft./Yr.
F16	Equipment Protection Methodology. . . . .	Scaled Value
F17	Equipment Pressurization Level . . . . .	PSI
F22	Landings per Tire (Landing Gear only) . . . . .	Landings per Tire

TABLE A-1 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 23000 PROPULSION

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER						
		P02	P04	P05				
F-15A/LAKE	28.10	58.00	302.10	6.19				
F-15A/11TBURG	56.63	64.00	300.00	6.20				
B-52G/FAIRCHILD	116.87	120.00	380.70	11.41				
FB-111A/PLATTSBURGH	49.91	64.00	490.00	20.76				
C-141A/TRAVIS	-	-	-	-				
KC-135A/FAIRCHILD	77.52	108.00	432.00	11.41				
T-38A/RANDOLPH	18.88	166.00	51.60	2.07				
A-10A/WHITLE BEACH	0.42	38.00	142.70	8.80				
A-10A/DAVIS MONTHAN	8.74	46.00	142.70	8.80				

TABLE A-2 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 51A00 FLIGHT INDICATORS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER						
		A03	A06	A10	A15			
F-15A/LUKE	1.58	2.72	71.00	6.00	0.16			
F-15A/BITBURG	0.88	0.72	47.00	4.00	21.80			
B-52G/FAIRCHILD	0.40	3.00	47.00	4.00	5.00			
FB-111A/PLATTSBURGH	7.19	8.09	58.50	6.00	21.00			
C-141A/TRAVIS	3.31	5.08	85.00	6.00	19.00			
KC-135A/FAIRCHILD	0.70	1.00	47.00	4.00	0.00			
T-38A/RANDOLPH	1.42	4.75	76.70	4.00	20.00			
A-10A/WYRTLE BEACH	0.05	0.56	60.00	0.00	2.30			
A-10A/DAVIS MONTHAN	1.48	1.29	69.00	1.72	7.00			



TABLE A-3 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: S1E00 AIR DATA SYSTEM

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I. D. NUMBER							
		A03	A07	A10	A16	A18	A19		
F-15A/LUKE	1.38	14.70	1.00	6.00	4.49	78.00	100.00		
F-15A/81TBURG	0.94	11.87	1.69	4.31	6.80	25.00	70.00		
B-52G/FAIRCHILD	3.47	5.06	1.08	4.19	1.11	72.00	60.00		
FB-111A/PLATTSBURGH	7.13	29.26	1.00	4.82	2.87	50.00	76.44		
C-141A/TRAVIS	7.88	34.80	1.00	6.00	2.70	300.00	59.00		
KC-135A/FAIRCHILD	3.30	2.08	1.12	5.00	2.15	1.00	50.00		
T-38A/RANDOLPH	1.34	4.17	1.00	4.00	7.90	12.00	75.00		
A-10A/MTLE BEACH	0.05	14.73	2.00	4.00	5.56	1.00	95.00		
A-10A/DAVIS-MONTAN	0.43	3.43	1.90	4.33	4.50	6.00	88.00		

TABLE A-4 SIGNIFICANT EQUIPMENT PARAMETER DATA  
SUBSYSTEM: 5100 HORIZONTAL SITUATION INDICATOR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER							
		A07	A10	A16	A18				
F-15A/LAKE	1.28	2.00	6.00	8.14	200.00				
F-15A/BITBURG	2.09	1.36	4.00	6.80	263.00				
B-52G/FAIRCHILD	5.27	1.00	5.00	1.11	16.67				
FB-111A/PLATTSBURGH	2.25	1.00	6.00	2.50	66.67				
C-141A/TRAVIS	5.50	1.00	6.00	2.70	371.00				
KC-135A/FAIRCHILD	1.56	1.49	5.00	1.58	0.00				
T-38A/RANDOLPH	1.69	1.00	4.00	7.90	20.00				
A-10A/RYTLE BEACH	0.00	2.50	3.00	5.60	5.00				
A-10A/DAVIS-MONTHAN	1.26	2.86	3.00	4.55	6.00				

TABLE A-5 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 52A00 AUTOPILOT

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I. D. NUMBER									
		A03	A04	A06	A08	A11	A13	A19			
F-15A/LUKE	1.21	11.76	607.70	71.00	5.00	100.00	1.23	94.40			
F-15A/BITBURG	0.88	11.00	432.00	47.00	4.00	100.00	1.47	83.85			
B-52G/FAIRCHILD	7.53	30.55	1760.02	47.00	0.42	100.00	8.10	80.00			
FB-111A/PLATTSBURGH	9.91	17.78	827.96	44.00	0.00	90.00	4.00	77.60			
C-141A/TRAVIS	7.59	2.27	370.42	61.00	4.00	95.00	3.70	59.00			
KC-135A/FAIRCHILD	5.67	18.14	976.09	47.00	0.00	100.00	5.69	85.00			
T-38A/RANDOLPH	0.46	2.35	44.61	74.05	4.00	99.00	1.00	83.00			
A-10A/MYRTLE BEACH	0.11	4.50	234.00	63.00	4.00	100.00	1.80	88.00			
A-10A/DAVIS-MONTHAN	1.13	6.95	334.80	69.00	4.00	100.00	2.20	82.10			

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TABLE A-6 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 63A00 UHF COMMUNICATION SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER							
		A03	A04	A05	A10				
F-15A/LUKE	4.31	26.43	802.50	12.28	6.00				
F-15A/BITBURG	5.03	26.00	750.90	9.62	6.00				
B-52G/FAIRCHILD Unit #1 Unit #2	6.93	39.55	1395.00	6.22	4.00				
	7.80	39.97	1408.67	6.28	4.00				
FB-111A/PLATTSBURGH	7.34	19.10	596.56	7.30	5.22				
C-141A/TRAVIS	24.00	47.87	1526.90	8.74	6.00				
KC-135A/FAIRCHILD	12.26	41.65	1474.15	6.52	4.00				
T-38A/RANDOLPH	4.25	45.50	1583.90	8.00	4.00				
A-10A/WRIGHT BEACH	0.00	9.25	241.60	5.00	4.00				
A-10A/DAVIS-MONTHAN	0.00	9.25	241.63	5.00	2.00				

TABLE A-7 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 65400 IFF TRANSPONDER SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
		A02	A05	A09							
F-15A/LINE	0.90	3.00	8.00	5.00							
F-15A/BITBURG	2.22	3.00	19.00	0.00							
B-52G/FATMCHILD	2.47	3.00	8.27	23.21							
FB-111A/PLATTSBURGH	3.03	7.00	9.00	51.00							
C-141A/DAVIS	2.44	3.00	7.84	0.00							
KC-135A/FATMCHILD	1.07	1.00	8.31	24.13							
T-38A/DANDOLPH	2.22	1.33	3.97	0.00							
A-10A/MYRTLE BEACH	0.11	2.00	22.00	89.00							
A-10A/DAVIS-HORTHAN	0.00	2.00	19.00	100.00							

TABLE A-8 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 71A00 INERTIAL NAVIGATION SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER					
		A03	A04	A05	A06		
F-15A/LIKE	5.45	28.80	1171.60	11.15	47.50		
F-15A/BITBURG	4.34	32.32	1387.20	18.65	47.00		
B-52G/FAIRCHILD	-	-	-	-	-		
FB-111A/PLATTSBURGH	18.03	53.28	2360.31	51.10	44.00		
C-141A/TRAVIS	0.31	39.90	1280.50	0.00	98.60		
KC-135A/FAIRCHILD	-	-	-	-	-		
T-38A/RANDOLPH	0.00	15.00	6.00	1.00	69.00		
A-10A/WHITLE BEACH	-	-	-	-	-		
A-10A/DAVIS-MONTHAN	-	-	-	-	-		

TABLE A-9 SIGNIFICANT EQUIPMENT PARAMETER DATA  
SUBSYSTEM: 71000 INSTRUMENT LANDING SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER							
		A02	A06	A10	A15				
F-15A/LAKE	0.52	3.00	35.00	6.00	1.00				
F-15A/81TBURG	-	-	-	-	-				
B-52G/FAIRCHILD	0.93	1.02	47.00	5.00	14.85				
FB-111A/PLATTSBURGH	1.00	3.00	79.00	6.00	0.00				
C-141A/TRAVIS	1.94	3.00	71.66	6.00	25.00				
KC-135A/FAIRCHILD	0.26	1.00	47.00	3.58	2.80				
T-38A/RANDOLPH	0.76	2.00	46.00	4.00	5.00				
A-10A/MYRTLE BEACH	-	-	-	-	-				
A-10A/DAVIS-MONTHAN	-	-	-	-	-				

TABLE A-10 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 71000 TACAN SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER						
		A03	A12	A18	A19			
F-15A/LUKE	1.93	29.00	1.00	10.00	75.00			
F-15A/BITBURG	1.56	29.80	2.00	25.00	90.00			
B-52G/FAIRCHILD	3.60	31.00	0.00	0.00	90.00			
FB-111A/PLATTSBURGH	1.75	27.60	10.00	10.00	95.00			
C-141A/TRAVIS	11.38	51.00	0.00	1.00	100.00			
KC-135A/FAIRCHILD	3.15	45.00	5.00	20.00	100.00			
T-38A/RANDOLPH	0.77	50.00	0.00	50.00	98.00			
A-10A/MYRTLE BEACH	0.00	14.30	10.00	25.00	95.00			
A-10A/DAVIS-MONTHAN	0.30	9.11	10.00	25.00	85.00			



TABLE A-11 SIGNIFICANT EQUIPMENT PARAMETER DATA  
SUBSYSTEM: 71F00 ATTITUDE-HEADING REFERENCE SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER							
		A04	A06	A07	A08	A12	A13		
F-15A/LUKE	1.79	601.96	71.00	1.00	5.00	2.00	1.23		
F-15A/BITBURG	1.31	591.00	60.00	1.52	4.00	2.60	1.47		
B-52G/FAIRCHILD	5.20	299.50	47.00	1.00	1.10	10.06	9.00		
FB-111A/PLATTSBURGH	5.91	324.11	44.00	1.00	0.00	7.00	4.00		
C-141A/TRAVIS	0.09	853.69	61.89	1.00	4.00	3.00	3.70		
KC-135A/FAIRCHILD	1.70	250.00	47.00	1.00	2.00	20.00	6.33		
T-38A/RANDOLPH	4.24	408.90	29.87	1.00	4.00	0.00	1.26		
A-10A/WHITLE BEACH	0.00	458.50	63.00	2.00	3.00	40.00	1.80		
A-10A/DAVIS-MONTHAN	1.61	460.11	69.00	2.00	3.00	40.00	2.20		

TABLE A-12 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 74F00 RADAR SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.O. NUMBER							
		A02	A03	A10	A12	A13	A19		
F-15A/LUKE	13.24	2.00	64.61	6.00	9.00	1.23	89.00		
F-15A/BITBURG	11.13	3.00	61.11	6.00	76.00	1.42	84.00		
B-52G/FAIRCHILD	15.60	2.18	55.35	4.55	0.00	6.54	91.50		
FB-111A/PLATTSBURGH	15.53	1.49	74.00	6.00	54.80	4.00	82.00		
C-141A/TRAVIS	21.19	3.90	49.78	6.00	0.00	3.70	100.00		
KC-135A/FAIRCHILD	8.37	2.14	54.20	3.59	3.98	6.33	87.35		
T-38A/RANDOLPH	-	-	-	-	-	-	-		
A-10A/WRTL BEACH	0.00	7.00	2.40	3.00	75.00	0.09	90.00		
A-10A/DAVIS-MONTHAN	0.61	7.00	3.29	4.95	75.00	0.01	90.00		

TABLE A-13 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 11A01 RADOME

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND - F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
		F08									
F-15A/LUKE	1.21	6.00									
F-15A/811TBURG	1.16	3.00									
B-52G/FAIRCHILD	0.53	8.00									
FB-111A/PLATTSBURGH	2.16	5.00									
C-141A/TRAVIS	4.38	9.00									
KC-135A/FAIRCHILD	0.15	1.00									
T-38A/RANDOLPH	0.65	6.00									
A-10A/WHITLE BEACH	-	-									
A-10A/DAVIS-MONTHAN	-	-									

TABLE A-14 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 11A02 WINDSHIELD

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
		F03	F04	F07							
F-15A/LAKE	0.93	60.00	1890.00	100.00							
F-15A/BITBURG	0.16	60.00	1890	100.00							
B-52G/FAIRCHILD	0.33	54.00	432.00	100.00							
FB-111A/PLATTSBURGH	4.03	64.00	2160.00	95.00							
C-141A/TRAVIS	7.31	385.00	3840.00	95.00							
KC-135A/FAIRCHILD	2.52	50.00	432.00	100.00							
T-38A/RANDOLPH	0.18	20.00	432.00	100.00							
A-10A/MYRTLE BEACH	0.00	150.00	1661.00	100.00							
A-10A/DAVIS-MONTHAN	0.20	150.00	1661.00	98.00							

TABLE A-15 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 11K00 WINGS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
		F04	F07								
F-15A/LUKE	13.97	608.00	100.00								
F-15A/BITBURG	7.56	608.00	100.00								
B-52G/FAIRCHILD	17.40	800.00	95.00								
FB-111A/PLATTSBURGH	26.25	602.75	95.00								
C-141A/TRAVIS	76.47	3073.00	95.00								
KC-135A/FAIRCHILD	34.81	1156.70	100.00								
T-38A/RANDOLPH	4.82	170.00	100.00								
A-10A/WHITLE BEACH	0.53	506.00	99.00								
A-10A/DAVIS-MONTHAN	3.96	506.00	99.00								

TABLE A-16 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 12800 COCKPIT FURNISHINGS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER							
		F06	F07	F08	F11				
F-15A/LAKE	0.10	8.00	100.00	6.0	50.00				
F-15A/BITBURG	0.06	8.00	100.00	4.0	50.00				
B-52G/FAIRCHILD	0.08	5.00	95.00	8.0	200.00				
FB-111A/PLATTSBURGH	1.27	1.00	99.00	5.0	300.00				
C-141A/TRAVIS	3.64	1.00	95.00	9.0	400.00				
EC-135A/FAIRCHILD	0.19	1.00	100.00	5.0	33.30				
T-38A/RANDOLPH	0.30	5.00	100.00	5.0	20.00				
A-10A/WRITIE BEACH	0.00	5.00	100.00	6.0	100.00				
A-10A/DAVIS-NORTHAM	0.13	5.00	100.00	2.0	100.00				

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TABLE A-17 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 13400 MATH LANDING GEAR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
		F03	F04	F06	F08	F13	F16	F22			
F-15A/LAKE	12.14	190.00	10.54	7.00	9.00	0.97	4.0	30.00			
F-15A/BITBURG	8.69	190.00	10.54	7.00	9.00	0.69	4.0	17.00			
B-52G/FAIRCHILD	22.80	5488.00	182.40	5.00	7.00	1.87	0.00	0.00			
F8-111A/PLATTSBURGH	10.47	506.00	17.60	5.00	9.00	2.03	3.00	160.00			
C-141A/TRAVIS	28.16	2200.00	112.56	5.00	10.00	5.21	3.00	160.00			
KC-135A/FAIRCHILD	9.85	2960.00	148.40	1.00	8.00	1.30	0.00	0.00			
T-38A/RANDOLPH	18.51	58.00	1.64	5.00	10.00	3.19	1.00	80.00			
A-10A/WRIGHT BEACH	0.05	228.00	12.96	1.00	5.00	0.11	5.00	19.00			
A-10A/DAVIS-MONTHAN	1.17	228.00	12.96	1.00	5.00	0.09	4.00	70.00			

TABLE A-18 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 13000 BRAKES

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND R01	EQUIPMENT CHARACTERISTIC PARAMETER T.D. NUMBER									
		F09									
F-15A/LUKE	2.05	100.00									
F-15A/BITBURG	0.52	100.00									
B-52G/FAIRCHILD	1.57	90.00									
FB-111A/PLATTSBURGH	2.14	75.00									
C-141A/TRAVIS	1.36	95.00									
KC-135A/FAIRCHILD	0.80	90.00									
T-38A/RANDOLPH	1.95	80.00									
A-10A/MYRTLE BEACH	0.00	100.00									
A-10A/DAVIS-MONTHAN	0.00	100.00									



TABLE A-19 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 14C00 STABILATOR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND ROT	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
		F03	F06								
F-15A/LUKE	1.48	300.00	5.00								
F-15A/81TBURG	1.38	300.00	5.00								
B-52G/FAIRCHILD	0.20	2000.00	1.00								
FB-111A/PLATTSBURGH	4.88	1730.00	4.00								
G-141A/TRAVIS	11.75	3000.00	5.00								
KC-135A/FAIRCHILD	3.96	1600.00	5.00								
T-38A/RANDOLPH	1.61	800.00	5.00								
A-10A/MIRLE BEACH	0.00	800.00	1.00								
A-10A/DAVIS-MONTHAN	0.13	800.00	1.00								

TABLE A-20 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 14000 RUDDER

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
F-15A/LAKE											
F-15A/BITBURG											
B-52G/FAIRCHILD											
FB-111A/PLATTSBURGH											
C-141A/TRAVIS											
KC-135A/FAIRCHILD											
T-38A/RANDOLPH											
A-10A/WHITLE BEACH											
A-10A/DAVIS-MONTHAN											

TABLE A-21 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 14H00 FLAPS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER							
		F03	F04	F06	F08	F10			
F-15A/LAKE	0.10	104.00	69.90	1.00	5.00	4.00			
F-15A/BITBURG	0.69	104.00	69.70	1.00	9.00	4.00			
B-52G/FAIRCHILD	3.67	800.00	523.30	1.00	9.00	4.00			
FB-111A/PLATTSBURGH	22.03	800.00	126.70	10.00	9.00	2.00			
C-141A/TRAVIS	28.56	3364.00	528.70	5.00	14.00	1.00			
KC-135A/FAIRCHILD	7.26	550.00	120.00	1.00	4.00	4.00			
T-38A/BANDOLPH	1.14	70.00	20.50	5.00	1.00	0.00			
A-10A/MYRTLE BEACH	0.05	200.00	86.00	5.00	8.00	0.00			
A-10A/DAVIS-MONTHAN	0.78	200.00	86.00	5.00	8.00	0.00			

TABLE A-22 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 41A00 ENVIRONMENTAL CONTROL

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND R01	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
		F08									
F-15A/LAKE	0.03	5.00									
F-15A/BITBURG	0.03	6.00									
B-52G/FAIRCHILD	0.27	1.00									
FB-111A/PLATTSBURGH	2.06	13.00									
C-141A/TRAVIS	0.81	3.00									
KC-135A/FAIRCHILD	0.00	1.00									
T-38A/RANDOLPH	0.84	1.00									
A-10A/WRIGHT BEACH	0.00	4.00									
A-10A/DAVIS-NORTHAM	0.04	4.00									

TABLE A-23 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 42400 AIRCRAFT POWER GENERATION

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER						
		F07	F09	F10	F13			
F-15A/LUKE	0.17	96.50	85.00	1.00	0.03			
F-15A/BITBURG	0.23	75.00	75.00	1.00	0.13			
B-52G/FAIRCHILD	1.13	100.00	90.00	1.00	0.80			
FB-111A/PLATTSBURGH	0.38	90.00	95.00	2.00	0.00			
C-141A/DAVIS	0.54	95.00	100.00	1.50	0.41			
KC-135A/FAIRCHILD	0.53	100.00	95.00	1.00	0.48			
T-38A/DUNDOOLPH	0.78	100.00	90.00	1.00	0.17			
A-10A/WHITLE BEACH	0.00	90.00	75.00	2.00	0.00			
A-10A/DAVIS-MORTHAM	0.04	60.00	85.00	2.00	0.00			

TABLE A-24 SIGNIFICANT EQUIPMENT PARAMETER DATA  
SUBSYSTEM: 4401 NAVIGATION/ANTI-COLLISION LIGHTS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER							
		F03	F04	F06	F08	F11			
F-15A/LUKE	2.72	10.00	500.00	1.00	10.00	50.00			
F-15A/BITBURG	1.47	10.00	500.00	3.00	9.00	100.00			
B-52G/FAIRCHILD	0.33	2.50	368.00	3.00	6.00	200.00			
FB-111A/PLATTSBURGH	3.09	10.00	392.60	1.00	6.00	25.00			
C-141A/DAVIS	4.75	15.00	720.00	1.00	6.00	10.00			
KC-135A/FAIRCHILD	0.04	4.00	187.90	3.00	12.00	300.00			
T-38A/RANDOLPH	1.16	2.00	180.00	1.00	5.00	100.00			
A-10A/MYRTLE BEACH	0.00	2.00	193.00	4.00	12.00	300.00			
A-10A/DAVIS-MONTHAN	0.39	2.00	193.00	4.00	14.00	300.00			

TABLE A-25 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 44A02 LANDING/TAXI LIGHTS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT (INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT CHARACTERISTIC PARAMETERS))

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER						
		F03	F04	F13				
F-15A/LUKE	0.38	6.00	171.74	0.07				
F-15A/BITBURG	0.50	6.00	171.74	0.00				
B-52G/FAIRCHILD	2.13	15.00	1206.00	0.00				
FB-111A/PLATTSBURGH	6.72	6.00	508.90	0.19				
C-141A/TRAVIS	9.84	34.00	6336.00	0.13				
KC-135A/FAIRCHILD	0.96	9.50	793.00	0.00				
T-38A/RANDOLPH	0.73	12.00	600.00	0.00				
A-10A/WRIGHT BEACH	0.00	8.00	500.00	0.00				
A-10A/DAVIS-NORTHAM	0.21	8.00	500.00	0.00				

TABLE A-26 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 45A00 HYDRAULIC POWER

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I. D. NUMBER									
		F04	F11								
F-15A/LUKE	0.21	462.00	6.50								
F-15A/BITBURG	0.02	462.00	20.00								
B-52G/FAIRCHILD	1.57	1432.00	10.00								
FB-111A/PLATTSBURGH	1.29	480.00	10.00								
C-141A/TRAVIS	0.20	416.00	20.00								
KC-135A/FAIRCHILD	1.22	942.00	10.00								
T-38A/RANDOLPH	0.23	236.00	10.00								
A-10A/WRIGHTLE BEACH	0.00	900.00	20.00								
A-10A/DAVIS-MONTHAN	0.17	900.00	20.00								



TABLE A-27 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 46A00 FUEL TANKS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
		F16									
F-15A/LAKE	1.55	7.00									
F-15A/BITBURG	2.44	7.00									
B-52G/FAIRCHILD	1.66	7.00									
FB-111A/PLATTSBURGH	5.46	7.00									
C-141A/TRAVIS	5.03	7.00									
KC-135A/FAIRCHILD	2.44	3.00									
T-38A/RANDOLPH	0.07	4.00									
A-10A/RYTLE BEACH	0.05	4.00									
A-10A/DAVIS-MONTHAN	0.17	4.00									

TABLE A-28 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 47A01 OXYGEN REGULATOR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER									
		F03									
F-15A/LUKE	0.34	2.50									
F-15A/BITBURG	0.78	2.50									
B-52G/FAIRCHILD	0.34	2.00									
FB-111A/PLATTSBURGH	1.70	1.00									
C-141A/TRAVIS	0.33	3.00									
KC-135A/FAIRCHILD	0.22	3.00									
T-38A/RANDOLPH	0.45	1.50									
A-10A/RYTLE BEACH	0.05	2.00									
A-10A/DAVIS-MONTHAN	0.39	2.00									

TABLE A-29 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 47A02 LOX CONVERTER

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER						
		F04	F08	F17				
F-15A/LUKE	0.14	5.00	5.00	110.00				
F-15A/BITBURG	0.31	5.00	5.00	110.00				
B-52G/FAIRCHILD	1.78	25.00	15.00	450.00				
FB-111A/PLATTSBURGH	0.97	15.00	5.00	110.00				
C-141A/TRAVIS	0.47	25.00	8.00	305.00				
KC-135A/FAIRCHILD	0.44	8.00	4.00	450.00				
T-38A/RANDOLPH	0.54	5.00	6.00	120.00				
A-10A/WRITTE BEACH	0.05	5.00	6.00	180.00				
A-10A/DAVIS-MONTHAN	0.09	5.00	6.00	180.00				

TABLE A-30 SIGNIFICANT EQUIPMENT PARAMETER DATA

SUBSYSTEM: 49A00 ENGINE FIRE DETECTION

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIPMENT CHARACTERISTIC PARAMETER I.D. NUMBER						
		F03	F04	F08				
F-15A/LUKE	0.07	2.00	2.00	5.00				
F-15A/BITBURG	0.08	2.00	2.00	5.00				
B-52G/FAIRCHILD	0.11	0.63	0.00	4.00				
FB-111A/PLATTSBURGH	0.30	2.00	0.00	14.00				
C-141A/TRAVIS	0.17	3.00	0.22	16.00				
KC-135A/FAIRCHILD	0.06	0.63	2.20	9.00				
T-38A/RANDOLPH	0.07	0.50	0.00	9.00				
A-10A/WHITLE BEACH	0.04	1.00	3.75	10.00				
A-10A/DAVIS-MONTHAN	0.02	1.00	3.75	10.00				

# APPENDIX A (Continued)

## SIGNIFICANT PARAMETER DATA SETS FOR GENERIC MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT

### SIGNIFICANT OPERATIONAL PARAMETER DATA SETS

<u>SYSTEM</u>		<u>TABLE</u>
23000	Propulsion . . . . .	A-31
51A00	Flight Indicators. . . . .	A-32
51E00	Air Data System. . . . .	A-33
51N00	Horizontal Situation Indicator . . . . .	A-34
52A00	Autopilot. . . . .	A-35
63A00	UHF Communication Set. . . . .	A-36
65A00	IFF Transponder Set. . . . .	A-37
71A00	Inertial Navigation Set. . . . .	A-38
71C00	Instrument Landing Set . . . . .	A-39
71D00	TACAN Set. . . . .	A-40
71F00	Attitude-Heading Reference Set . . . . .	A-41
74F00	Radar Set. . . . .	A-42
11A01	Radome . . . . .	A-43
11A02	Windshield . . . . .	A-44
11K00	Wings. . . . .	A-45
12B00	Cockpit Furnishings. . . . .	A-46
13A00	Main Landing Gear. . . . .	A-47
13D00	Brakes . . . . .	A-48
14C00	Stabilator . . . . .	A-49
14D00	Rudder . . . . .	A-50
14H00	Flaps . . . . .	A-51
41A00	Environmental Control. . . . .	A-52
42A00	Aircraft Power Generation. . . . .	A-53
44A01	Navigation/Anti-Collision Lights. . . . .	A-54
44A02	Landing/Taxi Lights. . . . .	A-55
45A00	Hydraulic Power. . . . .	A-56
46A00	Internal Fuel Tanks. . . . .	A-57
47A01	Oxygen Regulator . . . . .	A-58
47A02	LOX Converter. . . . .	A-59
49A00	Overheat/Fire Detection and Extinguishing. . . . .	A-60

# APPENDIX A (Continued)

## SIGNIFICANT PARAMETER DATA SETS FOR GENERIC MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT

### KEY TO SIGNIFICANT OPERATIONAL PARAMETERS CONTAINED IN DATA SETS

<u>I.D. NO.</u>	<u>PARAMETER</u>	<u>DIMENSION</u>
Ø02	Years Acft Have Been On Base . . . . .	No. Years
Ø03	Average Mission Mix. . . . .	Scaled Value
Ø05	Average Take-Off Speed . . . . .	Knots
Ø06	Median Take-Off Distance . . . . .	Feet
Ø07	Percent of Max Take-Off Weight . . . . .	Avg. T.O. Wt. as % of Max
Ø08	Average Climb Rate . . . . .	Feet/Min.
Ø09	Average Cruise Speed . . . . .	Knots
Ø10	Average Cruise Altitude. . . . .	Feet ÷ 10
Ø11	Average Descent Rate . . . . .	Feet/Min.
Ø12	Average Landing Speed. . . . .	Knots
Ø13	Minimum Landing Distance . . . . .	Feet
Ø14	Average Landing Weight . . . . .	Lbs. ÷ 1000
Ø15	Total Flying Hours per Aircraft. . . . .	Hours/Acft/Yr
Ø16	Training Flying Hours per Aircraft . . . . .	Hours/Acft/Yr
Ø17	Operations Flying Hours per Aircraft . . . . .	Hours/Acft/Yr
Ø18	Misc. Flying Hours per Aircraft. . . . .	Hours/Acft/Yr
Ø19	Total Landings per Aircraft. . . . .	Landings/Acft/Yr
Ø20	Training Landings per Aircraft . . . . .	Landings/Acft/Yr
Ø21	Operations Landings per Aircraft . . . . .	Landings/Acft/Yr
Ø22	Misc. Landings per Aircraft. . . . .	Landings/Acft/Yr
Ø23	Average No. of Aircraft on Alert . . . . .	Acft/Month
Ø25	Total Sorties per Aircraft . . . . .	Sorties/Acft/Yr
Ø26	Training Sorties per Aircraft. . . . .	Sorties/Acft/Yr
Ø27	Operations Sorties per Aircraft. . . . .	Sorties/Acft/Yr
Ø30	Maximum Aircraft Speed . . . . .	Knots
Ø31	Aircraft Service Ceiling . . . . .	Feet ÷ 10
Ø32	Aircraft Crew Size . . . . .	Crewmen per Acft
Ø33	Average Sortie Length. . . . .	Hours/Sortie
Ø34	Accidents (Major & Minor) per Aircraft . . . . .	No./Acft/Yr
Ø35	Incidents per Aircraft . . . . .	No./Acft/Yr

TABLE A-3) SIGNIFICANT OPERATIONAL PARAMETER DATA  
SUBSYSTEM: 2000 PROPULSION

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		Ø08	Ø10	Ø14	Ø27	Ø32	Ø33		
F-15A/LAKE	28.10	4000.00	2000.00	31.50	26.72	2.00	1.26		
F-15A/BITBURG	56.63	6000.00	2000.00	33.50	148.34	1.00	1.51		
B-52G/FAIRCHILD	116.87	1500.00	3300.00	240.00	4.43	9.00	8.25		
F8-111A/PLATTSBURGH	49.91	2400.00	1250.00	60.00	60.72	2.00	3.75		
C-141A/TRAVIS	-	-	-	-	-	-	-		
KC-135A/FAIRCHILD	77.52	1750.00	2500.00	127.50	4.81	6.00	4.95		
T-38A/DANDOLPH	18.88	4000.00	1175.00	9.50	0.00	2.00	1.38		
A-10A/WRTL BEACH	0.42	4000.00	408.75	30.00	93.00	1.00	1.90		
A-10A/DAVIS-MONTHAN	8.74	3500.00	1000.00	27.50	60.00	1.00	2.05		

TABLE A-32 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 51A00 FLIGHT INDICATORS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		011	013	015	017	025			
F-15A/LAKE	1.58	2250.00	3750.00	361.67	36.12	267.17			
F-15A/BITBURG	0.88	2250.00	3750.00	363.02	223.53	174.53			
B-52G/FAIRCHILD	0.80	4000.00	2600.00	365.27	36.53	44.27			
FB-111A/PLATTSBURGH	7.19	2500.00	7500.00	314.47	204.09	83.88			
C-141A/TRAVIS	6.63	700.00	2750.00	1369.84	1150.66	364.03			
KC-135A/FAIRCHILD	0.70	4000.00	3500.00	237.74	23.77	48.07			
T-38A/RANDOLPH	2.84	3000.00	3500.00	345.71	0.00	250.22			
A-10A/WRIGHTLE BEACH	0.05	3500.00	1600.00	196.72	177.05	103.32			
A-10A/DAVIS-MONTHAN	1.48	3000.00	1000.00	469.57	328.70	228.61			



TABLE A-33 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 51E00 AIR DATA SYSTEM

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER						
		908	913	914	923	932		
F-15A/LAKE	1.38	4000.00	3750.00	31.50	0.00	2.00		
F-15A/BITBURG	0.94	6000.00	3750.00	33.50	1.00	1.00		
B-52G/FAIRCHILD	3.47	1500.00	2600.00	240.00	4.00	9.00		
FB-111A/PLATTSBURGH	7.13	2400.00	7500.00	60.00	12.00	2.00		
C-141A/TRAVIS	7.88	1400.00	2750.00	165.00	0.33	7.00		
KC-135A/FAIRCHILD	3.30	1750.00	3500.00	127.50	9.00	6.00		
T-38A/RANDOLPH	1.34	4000.00	3500.00	9.50	0.00	2.00		
A-10A/WHITLE BEACH	0.05	4000.00	1600.00	30.00	0.00	1.00		
A-10A/DAVIS-DUNTHAN	0.43	3500.00	1000.00	27.50	0.00	1.00		

TABLE A-34 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 5100 HORIZONTAL SITUATION INDICATOR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER						
		008	010	014	032	033		
F-15A/LAKE	1.28	4000.00	2000.00	31.50	2.00	1.26		
F-15A/BITBURG	2.09	6000.00	2000.00	33.50	1.00	1.51		
B-52G/FAIRCHILD	5.27	1500.00	3300.00	240.00	9.00	8.25		
FB-111A/PLATTSBURGH	2.25	2400.00	1250.00	60.00	2.00	3.75		
C-141A/TRAVIS	5.50	1400.00	1940.00	165.00	7.00	3.76		
KC-135A/FAIRCHILD	1.56	1750.00	2500.00	127.50	6.00	4.95		
T-38A/RANDOLPH	1.69	4000.00	1175.00	9.50	2.00	1.38		
A-10A/WHITLE BEACH	0.00	4000.00	408.75	30.00	1.00	1.90		
A-10A/DAVIS-DORTHAM	1.26	3500.00	1000.00	27.50	1.00	2.05		

TABLE F-35 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 52A00 AUTOPILOT

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER					
		008	014	023	032	033	
F-15A/LAKE	1.21	4000.00	31.50	0.00	2.00	1.26	
F-15A/BITBURG	0.88	6000.00	33.50	1.00	1.00	1.51	
B-52G/FAIRCHILD	7.53	1500.00	240.00	4.00	9.00	8.25	
FB-111A/PLATTSBURGH	9.91	2400.00	60.00	12.00	2.00	3.75	
C-141A/TRAVIS	7.59	1400.00	165.00	0.33	7.00	3.76	
KC-135A/FAIRCHILD	5.67	1750.00	127.50	9.00	6.00	4.95	
T-38A/RANDOLPH	0.46	4000.00	9.50	0.00	2.00	1.38	
A-10A/WHITLE BEACH	0.11	4000.00	30.00	0.00	1.00	1.90	
A-10A/DAVIS-MONTAN	1.13	3500.00	27.50	0.00	1.00	2.05	

TABLE A-36 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 63400 UHF COMMUNICATION SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER					
		008	018	022	032		
F-15A/LAKE	4.31	4000.00	0.00	0.00	2.00		
F-15A/OTTUMBA	5.03	6000.00	7.90	5.31	1.00		
B-52B/FAIRCHILD	6.93	1500.00	0.00	0.00	9.00		
FB-111A/PLATTSBURGH	7.34	2400.00	1.22	1.94	2.00		
C-141A/DAVIS	24.00	1400.00	13.75	7.88	7.00		
KC-135A/FAIRCHILD	12.26	1750.00	11.89	8.14	6.00		
T-38A/RANDOLPH	4.25	4000.00	0.00	0.00	2.00		
A-10A/WRIGHT BEACH	0.00	4000.00	0.00	0.00	1.00		
A-10A/DAVIS-MONTHAN	0.00	3500.00	0.00	0.00	1.00		

TABLE A-37 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 65A00 1FF TRANSPONDER SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER						
		005	009	012	013	030		
F-15A/LAKE	0.90	150.00	350.00	135.00	3750.00	2.30		
F-15A/BITTING	2.22	150.00	375.00	117.50	3750.00	2.30		
B-52G/FAIRCHILD	2.47	156.00	450.00	135.00	2600.00	0.83		
FB-111A/PLATTSBURGH	3.03	165.00	440.00	135.00	7500.00	2.50		
C-141A/DAVIS	2.44	130.00	230.00	110.00	2750.00	0.83		
KC-135A/FAIRCHILD	1.07	150.00	410.00	125.00	3500.00	0.90		
T-38A/DANDOLPH	2.22	155.00	323.75	142.50	3500.00	1.30		
A-10A/WRIGHT BEACH	0.11	130.00	240.00	120.00	1600.00	0.41		
A-10A/DAVIS-MONTIUM	0.00	120.00	230.00	105.00	1000.00	0.41		

TABLE A-38 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 71A00 INERTIAL NAVIGATION SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER						
		909	913	925				
F-16A/LIKE	5.45	350.00	3750.00	267.17				
F-15A/817BURG	4.34	375.00	3750.00	174.53				
B-52G/FAIRCHILD	-	-	-	-				
FB-111A/PLATTSBURGH	18.03	440.00	7500.00	83.88				
C-141A/TNATIS	0.31	230.00	2750.00	364.03				
KC-135A/FAIRCHILD	-	-	-	-				
T-38A/RAHWOLPH	0.00	323.75	3500.00	250.22				
A-10A/WRIGHT BEACH	-	-	-	-				
A-10A/DAVIS-MONTGOMERY	-	-	-	-				

TABLE A-39 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 71000 INSTRUMENT LANDING SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 PAINT. ACTION DEMAND - F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	PAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER						
		015	025	027	032			
F-15A/LAKE	0.52	361.67	267.17	26.72	2.00			
F-15A/BITBURG	0.03	363.02	174.53	148.34	1.00			
B-52G/FAIRCHILD	0.93	365.27	44.27	4.43	9.00			
FB-111A/PLATTSBURGH	1.00	314.47	83.88	60.72	2.00			
C-141A/DAVIS	1.94	1369.84	364.03	305.47	7.00			
KC-135A/FAIRCHILD	0.26	237.74	48.07	4.81	6.00			
T-38A/DANFOLPH	0.76	345.71	250.22	0.00	2.00			
A-10A/WHITTE BEACH	-	-	-	-	-			
A-10A/DAVIS-NORTHAM	-	-	-	-	-			

TABLE A-40 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 71000 TACAM SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER					
		010	015	017	027	032	
F-15A/LINE	1.93	2000.00	361.67	36.12	26.72	2.00	
F-15A/WTUNG	1.56	2000.00	363.02	223.53	148.34	1.00	
B-52G/FAIRCHILD	3.60	3300.00	365.27	36.53	4.43	9.00	
FB-111A/PLATTSBURGH	1.75	1250.00	314.47	204.09	60.72	2.00	
C-141A/TRAVIS	11.38	1950.00	1369.04	1150.66	305.47	7.00	
KC-135A/FAIRCHILD	3.15	2500.00	237.74	23.77	4.81	6.00	
T-38A/DONWOLPH	0.77	1175.00	345.71	0.00	0.00	2.00	
A-10A/WHITLE BEACH	0.00	408.75	196.72	177.05	93.00	1.00	
A-10A/DAVIS-MONTAN	0.30	1000.00	469.57	328.70	60.00	1.00	



TABLE A-4) SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 7100 ATTITUDE-HEADING REFERENCE SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND - F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		005	009	012	013	034					
F-15A/LINE	1.79	150.00	350.00	135.00	3750.00	0.10					
F-15A/BITBURG	1.31	150.00	375.00	117.50	3750.00	0.09					
B-52E/FAIRCHILD	5.20	156.00	450.00	135.00	2600.00	0.33					
FB-111A/PLATTSBURGH	5.91	165.00	440.00	135.00	7500.00	0.13					
C-141A/TRAVIS	0.09	130.00	230.00	110.00	2750.00	0.00					
KC-135A/FAIRCHILD	1.70	150.00	410.00	125.00	3500.00	0.00					
T-38A/RANDOLPH	4.24	155.00	323.75	142.50	3500.00	0.05					
A-10A/WHITLE BEACH	0.00	130.00	240.00	120.00	1600.00	0.16					
A-10A/DAVIS-DORTHMAN	1.61	120.00	230.00	105.00	1000.00	0.04					

TABLE A-42 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 7400 RADAR SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER					
		010	011	014	019	032	
F-15A/LAKE	13.24	2000.00	2250.00	31.50	456.69	2.00	
F-15A/BITBURG	11.13	2000.00	2250.00	33.50	177.00	1.00	
B-52G/FAIRCHILD	15.60	3300.00	4000.00	240.00	131.47	9.00	
FB-111A/PLATTSBURGH	15.53	1250.00	2500.00	60.00	187.97	2.00	
C-141A/TRAVIS	21.19	1950.00	700.00	165.00	792.59	7.00	
KC-135A/FAIRCHILD	8.37	2500.00	4000.00	127.50	159.48	6.00	
T-38A/RANDOLPH	-	-	-	-	-	-	
A-10A/WHITLE BEACH	0.00	408.75	3500.00	30.00	105.91	1.00	
A-10A/DAVIS-DUNTHAM	0.61	1000.00	3000.00	27.50	228.61	1.00	

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TABLE A-43 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 11A01 RADOME

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		Ø03	Ø05	Ø07	Ø11	Ø12	Ø15	Ø17	Ø21	Ø25	Ø27
F-15A/LUXE	1.21	1.10	150.00	83.02	2250.00	116.00	361.67	36.12	45.72	267.17	26.72
F-15A/ØITBURG	1.16	1.91	150.00	82.14	2250.00	118.00	363.02	223.53	150.47	174.53	148.34
B-52G/FAIRCHILD	0.53	1.10	156.00	92.00	4000.00	115.00	365.27	36.53	13.15	44.27	4.43
FB-111A/PLATTSBURGH	2.16	1.78	165.00	79.00	2500.00	123.00	314.47	204.09	136.09	83.88	60.72
C-141A/TRAVIS	4.38	1.86	130.00	75.83	700.00	97.00	1369.84	1150.66	665.81	364.03	305.47
KC-135A/FAIRCHILD	0.15	1.20	150.00	82.00	4000.00	115.00	237.74	23.77	15.95	48.07	4.81
T-38A/RANDOLPH	0.65	1.00	155.00	100.00	3000.00	130.00	345.71	0.00	0.00	250.22	0.00
A-10A/RYTLE BEACH	-	-	-	-	-	-	-	-	-	-	-
A-10A/DAVIS-MONTHAN	-	-	-	-	-	-	-	-	-	-	-

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TABLE A-44 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 11A02 WINDSHIELD

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		908	911	912	915	917	921	927			
F-15A/LUKE	0.93	4000.00	2250.00	116.00	361.67	36.12	45.72	26.72			
F-15A/BITBURG	0.16	6000.00	2250.00	118.00	363.02	223.53	150.47	148.34			
B-52G/FAIRCHILD	0.33	1500.00	4000.00	115.00	365.27	36.53	13.15	4.43			
FB-111A/PLATTSBURGH	4.03	2400.00	2500.00	123.00	314.47	204.09	136.09	60.72			
C-141A/TRAVIS	7.31	1400.00	700.00	97.00	1369.84	1150.66	665.81	305.47			
KC-135A/FAIRCHILD	2.52	1750.00	4000.00	115.00	237.74	23.77	15.95	4.81			
T-38A/RANDOLPH	0.18	4000.00	3000.00	130.00	345.71	0.00	0.00	0.00			
A-10A/HWYRTLE BEACH	0.00	4000.00	3500.00	115.00	196.72	177.05	95.34	93.00			
A-10A/DAVIS-MONTHAN	0.20	3500.00	3000.00	111.00	469.57	328.70	60.00	60.00			

TABLE A-45 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 11K00 WINGS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER										
		002	008	010	011	012	014	015	017	021	027	032
F-15A/LUKE	13.97	3.67	4000.00	2000.00	2250.00	116.00	31.50	361.67	36.12	45.72	26.72	2.00
F-15A/BITBURG	7.56	0.75	6000.00	3800.00	2250.00	118.00	33.50	363.02	223.53	150.47	148.34	1.00
B-52G/FAIRCHILD	17.40	7.67	1500.00	2550.00	4000.00	115.00	240.00	365.27	36.53	13.15	4.43	9.00
FB-111A/PLATTSBURGH	26.25	6.00	2400.00	1650.00	2500.00	123.00	60.00	314.47	204.09	136.09	60.72	2.00
C-141A/TRAVIS	76.47	11.83	1400.00	3020.00	700.00	97.00	165.00	1369.84	1150.66	665.81	305.47	7.00
KC-135A/FAIRCHILD	34.81	20.33	1750.00	2900.00	4000.00	115.00	127.50	237.74	23.77	15.95	4.81	6.00
T-38A/RANDOLPH	4.82	11.75	4000.00	1590.00	3000.00	130.00	9.50	345.11	0.00	0.00	0.00	2.00
A-10A/WHITLE BEACH	0.53	0.67	4000.00	408.75	3500.00	115.00	30.00	196.72	177.05	95.34	93.00	1.00
A-10A/DAVIS-MONTHAN	3.96	2.42	3500.00	1000.00	3000.00	111.00	27.50	469.57	328.70	60.00	60.00	1.00

AD-A096 689

BOEING AEROSPACE CO SEATTLE WA PRODUCT SUPPORT/EXPER--ETC F/G 5/1  
DEVELOPMENT OF MAINTENANCE METRICS TO FORECAST RESOURCE DEMANDS--ETC(U)  
OCT 80 D K HINDES, G A WALKER, D H WILSON F33615-77-C-0075  
D194-10089-3 NL

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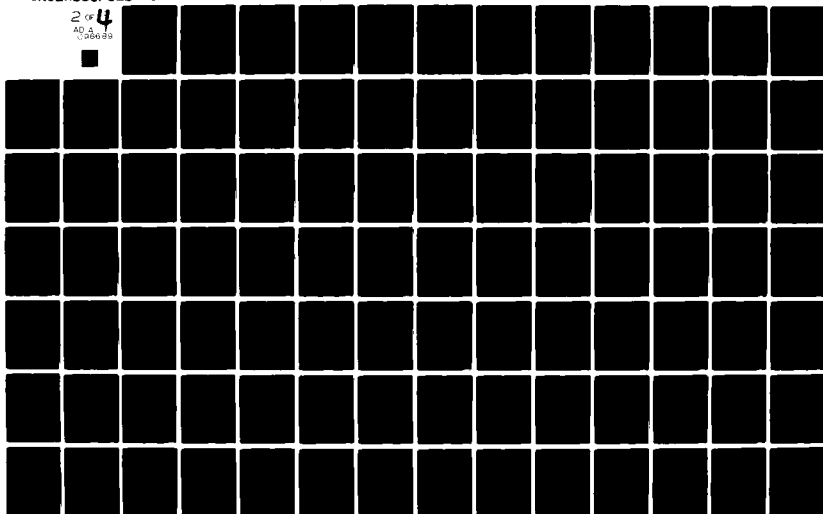


TABLE A-46 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 12800 COCKPIT FURNISHINGS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		Ø08	Ø11	Ø12	Ø15	Ø17	Ø21	Ø25	Ø27		
F-15A/LUKE	0.10	4000.00	2250.00	116.00	361.67	36.12	45.72	267.17	26.72		
F-15A/BITBURG	0.06	6000.00	2250.00	118.00	363.02	223.53	150.47	174.53	148.34		
B-52G/FAIRCHILD	0.08	1500.00	4000.00	115.00	365.27	36.53	13.15	44.27	4.43		
FB-111A/PLATTSBURGH	3.64	2400.00	2500.00	123.00	314.47	204.09	136.09	83.88	60.72		
C-141A/TRAVIS	1.27	1400.00	700.00	97.00	1369.84	1150.66	665.81	364.03	305.47		
KC-135A/FAIRCHILD	0.19	1750.00	4000.00	115.00	237.74	23.77	15.95	48.07	4.81		
T-38A/RANDOLPH	0.30	4000.00	3000.00	130.00	345.71	0.00	0.00	250.22	0.00		
A-10A/HURLER BEACH	0.00	4000.00	3500.00	115.00	196.72	177.05	95.34	103.32	93.00		
A-10A/DAVIS-MONTHAN	0.13	3500.00	3000.00	111.00	469.57	328.70	60.00	228.61	60.00		

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TABLE A-47 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 13400 MAIN LANDING GEAR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER T.D. NUMBER									
		Ø08	Ø10	Ø14	Ø15	Ø16	Ø19	Ø21	Ø32		
F-15A/LUKE	12.14	4000.00	2000.00	31.50	361.67	325.54	456.69	45.72	2.00		
F-15A/BITBURG	8.69	6000.00	3800.00	33.50	363.02	31.59	177.00	150.47	1.00		
B-52G/FAIRCHILD	22.80	1500.00	2550.00	240.00	365.27	328.74	131.47	13.15	9.00		
FB-111A/PLATTSBURGH	10.47	2400.00	1650.00	60.00	314.47	109.16	187.97	136.09	2.00		
C-141A/TRAVIS	28.16	1400.00	3020.00	165.00	1369.84	205.44	792.59	665.81	7.00		
KC-135A/FAIRCHILD	9.85	1750.00	2900.00	127.50	237.74	202.08	159.48	15.95	6.00		
T-38A/RANDOLPH	18.51	4000.00	1590.00	9.50	345.71	345.71	1046.72	0.00	2.00		
A-10A/MYRTLE BEACH	0.05	4000.00	408.75	30.00	196.72	19.67	105.91	95.34	1.00		
A-10A/DAVIS-MONTHAN	1.17	3500.00	1000.00	27.50	469.57	140.87	228.61	60.00	1.00		



TABLE A-48 SIGNIFICANT OPERATIONAL PARAMETER DATA  
SUBSYSTEM: 13000 BRAKES

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		Ø03	Ø05	Ø09	Ø16	Ø20	Ø26	Ø31			
F-15A/LUKE	2.05	1.10	150.00	500.00	325.54	410.97	240.45	7000.00			
F-15A/BITBURG	0.52	1.91	150.00	530.00	31.59	21.28	20.91	7000.00			
B-52G/FAIRCHILD	1.57	1.10	156.00	450.00	328.74	118.32	39.84	5500.00			
FB-111A/PLATTSBURGH	2.14	1.78	165.00	440.00	109.16	49.94	22.38	6000.00			
C-141A/TRAVIS	1.36	1.86	130.00	430.00	205.44	118.91	54.59	4885.00			
KC-135A/FAIRCHILD	0.80	1.20	150.00	410.00	202.08	135.56	40.86	5200.00			
T-38A/RANDOLPH	1.95	1.00	155.00	420.00	345.71	1046.72	250.22	5500.00			
A-10A/RYTLE BEACH	0.00	1.90	130.00	320.00	19.67	10.59	10.32	4420.00			
A-10A/DAVIS MONTHAN	0.00	1.70	120.00	310.00	140.87	68.61	68.61	4420.00			

TABLE A-49 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 14C00 STABILATOR

GENERIC METRICS AND HEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		908	011	012	015	017	021	027	
F-15A/LUKE	1.48	4000.00	2250.00	116.00	361.67	36.12	45.72	26.72	
F-15A/BITBURG	1.38	6000.00	2250.00	118.00	363.02	223.53	150.47	148.34	
B-52G/FAIRCHILD	0.20	1500.00	4000.00	115.00	365.27	36.53	13.15	4.43	
FB-111A/PLATTSBURGH	4.88	2400.00	2500.00	123.00	314.47	204.09	136.09	60.72	
C-141A/TRAVIS	11.75	1400.00	700.00	97.00	1369.84	1150.66	665.81	305.47	
KC-135A/FAIRCHILD	3.96	1750.00	4000.00	115.00	237.74	23.77	15.95	4.81	
T-38A/RANDOLPH	1.61	4000.00	3000.00	130.00	345.71	0.00	0.00	0.00	
A-10A/RYTLE BEACH	0.00	4000.00	3500.00	115.00	196.72	177.05	95.34	93.00	
A-10A/DAVIS-MONTHAN	0.13	3500.00	3000.00	111.00	469.57	328.70	60.00	60.00	

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TABLE A-50 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 14000 RUDDER

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER										
		Ø11	Ø12	Ø15	Ø17	Ø19	Ø21	Ø25	Ø27	Ø34		
F-15A/LUKE	0.93	2250.00	116.00	361.67	36.12	456.69	45.72	267.17	26.72	0.10		
F-15A/BITBURG	0.50	2250.00	118.00	363.02	223.53	177.00	150.47	174.53	148.34	0.09		
B-52G/FAIRCHILD	0.70	4000.00	115.00	365.27	36.53	131.47	13.15	44.27	4.43	0.33		
FB-111A/PLATTSBURGH	0.38	2500.00	123.00	314.47	204.09	187.97	136.09	83.88	60.72	0.13		
C-141A/TRAVIS	3.21	700.00	97.00	1369.84	1150.66	792.59	665.81	364.03	305.47	0.00		
KC-135A/FAIRCHILD	0.48	4000.00	115.00	237.74	23.77	159.48	15.95	48.07	4.81	0.00		
T-38A/RANDOLPH	0.84	3000.00	130.00	345.71	0.00	1046.72	0.00	250.22	0.00	0.05		
A-10A/WHITTE BEACH	0.05	3500.00	115.00	196.72	177.05	105.91	95.34	103.32	93.00	0.16		
A-10A/DAVIS-MONTHAN	0.83	3000.00	111.00	469.57	328.70	228.61	60.00	228.61	60.00	0.04		

TABLE A-51 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 14100 FLAPS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		008	011	015	017	021	027		
F-15A/LUKE	0.10	4000.00	2250.00	361.67	36.12	45.72	26.72		
F-15A/BITBURG	0.69	6000.00	2250.00	363.02	223.53	150.47	148.34		
B-52G/FAIRCHILD	3.67	1500.00	4000.00	365.27	36.53	13.15	4.43		
FB-111A/PLATTSBURGH	22.03	2400.00	2500.00	314.74	204.09	136.09	60.72		
C-141A/TRAVIS	28.56	1400.00	700.00	1369.84	1150.66	665.81	305.47		
KC-135A/FAIRCHILD	7.26	1750.00	4000.00	237.74	23.77	15.95	4.81		
T-38A/RANDOLPH	1.14	4000.00	3000.00	345.71	0.00	0.00	0.00		
A-10A/WRTL BEACH	0.05	4000.00	3500.00	196.72	177.05	95.34	93.00		
A-10A/DAVIS-MONTHAN	0.78	3500.00	3000.00	469.57	328.70	60.00	60.00		

TABLE A-52 SIGNIFICANT OPERATIONAL PARAMETER DATA  
SUBSYSTEM: 41A00 ENVIRONMENTAL CONTROL  
GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
F-15A/LUKE											
F-15A/BITBURG											
B-52G/FAIRCHILD											
FB-111A/PLATTSBURGH											
C-141A/TRAVIS											
KC-135A/FAIRCHILD											
T-38A/RANDOLPH											
A-10A/WRIGHT BEACH											
A-10A/DAVIS-MONTHAN											

TABLE A-53 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 42A00 AIRCRAFT POWER GENERATION

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER											
		#02	#03	#05	#06	#07	#08	#14	#16	#32	#33	#35	
F-15A/LUKE	0.17	3.67	1.10	150.00	3500.00	83.02	4000.00	31.50	325.54	2.00	1.26	1.97	
F-15A/BITBURG	0.23	0.75	1.91	150.00	2500.00	82.14	6000.00	33.50	31.59	1.00	1.51	1.31	
B-52G/FAIRCHILD	1.13	7.67	1.10	156.00	8750.00	92.00	1500.00	240.00	328.74	9.00	8.25	0.33	
FB-111A/PLATTSBURGH	0.38	6.00	1.78	165.00	3800.00	79.00	2400.00	60.00	109.16	2.00	3.75	0.66	
C-141A/TRAVIS	0.54	11.83	1.86	130.00	3800.00	75.83	1400.00	165.00	205.44	7.00	3.76	1.00	
KC-135A/FAIRCHILD	0.53	20.33	1.20	150.00	9500.00	82.00	1750.00	127.50	202.08	6.00	4.95	0.04	
T-38A/RANDOLPH	0.78	11.75	1.00	155.00	2700.00	100.00	4000.00	9.50	345.71	2.00	1.38	0.45	
A-10A/WHITLE BEACH	0.00	0.67	1.90	130.00	1700.00	82.00	4000.00	30.00	19.67	1.00	1.90	0.21	
A-10A/DAVIS-MONTHAN	0.04	2.42	1.70	120.00	3750.00	70.00	3500.00	27.50	140.87	1.00	2.05	1.87	

TABLE A-54 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 44A01 ANTI-COLLISION/NAVIGATION LIGHTS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		Ø11	Ø15	Ø17	Ø21	Ø25	Ø27				
F-15A/LUKE	2.72	2250.00	361.67	36.12	45.72	267.17	26.72				
F-15A/BITBURG	1.47	2250.00	363.02	223.53	150.47	174.53	148.34				
B-52G/FAIRCHILD	0.33	4000.00	365.27	36.53	13.15	44.27	4.43				
FB-111A/PLATTSBURGH	3.09	2500.00	314.47	204.09	136.09	83.88	60.72				
C-141A/TRAVIS	4.75	700.00	1369.84	1150.66	665.81	364.03	305.47				
KC-135A/FAIRCHILD	0.04	4000.00	237.74	23.77	15.95	48.07	4.81				
T-38A/RANDOLPH	1.16	3000.00	345.71	0.00	0.00	250.22	0.00				
A-10A/RYTLE BEACH	0.00	3500.00	196.72	177.05	95.34	103.32	93.00				
A-10A/DAVIS-MONTHAN	0.39	3000.00	469.57	328.70	60.00	228.61	60.00				

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TABLE A-55 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 44A02 LANDING/TAXI LIGHTS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		008	011	015	017	021	027		
F-15A/LUKE	0.38	4000.00	2250.00	361.67	36.12	45.72	26.72		
F-15A/BITBURG	0.50	6000.00	2250.00	363.02	223.53	150.47	148.34		
B-52G/FAIRCHILD	2.13	1500.00	4000.00	365.27	36.53	13.15	4.43		
FB-111A/PLATTSBURGH	6.72	2400.00	2500.00	314.47	204.09	136.09	60.72		
C-141A/TRAVIS	9.84	1400.00	700.00	1369.84	1150.66	665.81	305.47		
KC-135A/FAIRCHILD	0.96	1750.00	4000.00	237.74	23.70	15.95	4.81		
T-38A/RANDOLPH	0.73	4000.00	3000.00	345.71	0.00	0.00	0.00		
A-10A/MYRTLE BEACH	0.00	4000.00	3500.00	196.72	177.05	95.34	93.00		
A-10A/DAVIS-MONTHAN	0.21	3500.00	3000.00	469.57	328.70	60.00	60.00		

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TABLE A-56 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 45A00 HYDRAULIC POWER

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		005	006	008	014	025	032	033			
F-15A/LUKE	0.21	150.00	3500.00	4000.00	31.50	267.17	2.00	1.26			
F-15A/BITBURG	0.02	150.00	2500.00	6000.00	33.50	174.53	1.00	1.51			
B-52G/FAIRCHILD	1.57	156.00	8750.00	1500.00	240.00	44.27	9.00	8.25			
FB-111A/PLATTSBURGH	1.29	165.00	3800.00	2400.00	60.00	83.88	2.00	3.75			
C-141A/TRAVIS	0.20	130.00	3800.00	1400.00	165.00	364.03	7.00	3.76			
KC-135A/FAIRCHILD	1.22	150.00	9500.00	1750.00	127.50	48.07	6.00	4.95			
T-38A/RANDOLPH	0.23	155.00	2700.00	4000.00	9.50	250.22	2.00	1.38			
A-10A/RYLE BEACH	0.00	130.00	1700.00	4000.00	30.00	103.32	1.00	1.90			
A-10A/DAVIS MONTHAN	0.17	120.00	3750.00	3500.00	27.50	228.61	1.00	2.05			

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TABLE A-57 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 46A00 INTERNAL FUEL TANKS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND - F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		Ø10	Ø11	Ø15	Ø17	Ø21	Ø27				
F-15A/LUKE	1.55	2000.00	2250.00	361.67	36.12	45.72	26.72				
F-15A/BITBURG	2.44	3800.00	2250.00	363.02	223.53	150.47	148.34				
B-52G/FAIRCHILD	1.66	2550.00	4000.00	365.27	36.53	13.15	4.43				
FB-111A/PLATTSBURGH	5.46	1650.00	2500.00	314.47	204.09	136.09	60.72				
C-141A/TRAVIS	5.03	3020.00	700.00	1369.84	1150.66	665.81	305.47				
KC-135A/FAIRCHILD	2.44	2900.00	4000.00	237.74	23.77	15.95	4.81				
T-38A/RANDOLPH	0.07	1590.00	3000.00	345.71	0.00	0.00	0.00				
A-10A/MYRTLE BEACH	0.05	408.75	3500.00	196.72	177.05	95.34	93.00				
A-10A/DAVIS-MONTHAN	0.17	1000.00	3000.00	469.57	328.70	60.00	60.00				

TABLE A-58 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 47A01 OXYGEN REGULATOR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		005	030								
F-15A/LUKE	0.34	150.00	2.50								
F-15A/BITBURG	0.78	150.00	2.50								
B-52G/FAIRCHILD	0.34	156.00	0.84								
FB-111A/PLATTSBURGH	1.70	165.00	2.20								
C-141A/TRAVIS	0.33	130.00	0.89								
KC-135A/FAIRCHILD	0.22	150.00	0.90								
T-38A/RANDOLPH	0.45	155.00	1.63								
A-10A/WYRTLE BEACH	0.05	130.00	0.75								
A-10A/DAVIS-MONTHAN	0.39	120.00	0.75								

TABLE A-59 SIGNIFICANT OPERATIONAL PARAMETER DATA

SUBSYSTEM: 47A02 LOX CONVERTER

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		005	006	008	014	032	033	034	
F-15A/LUKE	0.14	150.00	3500.00	4000.00	31.50	2.00	1.26	0.10	
F-15A/BITBURG	0.31	150.00	2500.00	6000.00	33.50	1.00	1.51	0.09	
B-52G/FAIRCHILD	1.78	156.00	8750.00	1500.00	240.00	9.00	8.25	0.33	
FB-111A/PLATTSBURGH	0.97	165.00	3800.00	2400.00	60.00	2.00	3.75	0.13	
C-141A/TRAVIS	0.47	130.00	3800.00	1400.00	165.00	7.00	3.76	0.00	
KC-135A/FAIRCHILD	0.44	150.00	9500.00	1750.00	127.50	6.00	4.95	0.00	
T-38A/RANDOLPH	0.54	155.00	2700.00	4000.00	9.50	2.00	1.38	0.05	
A-10A/WHITLE BEACH	0.05	130.00	1700.00	4000.00	30.00	1.00	1.90	0.16	
A-10A/DAVIS-MONTHAN	0.09	120.00	3750.00	3500.00	27.50	1.00	2.05	0.04	

TABLE A-60 SIGNIFICANT OPERATIONAL PARAMETER DATA  
SUBSYSTEM: 49A00 OVERHEAT/FIRE DETECTION AND EXTINGUISHING  
GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (OPERATIONAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	OPERATIONAL CHARACTERISTIC PARAMETER I.D. NUMBER									
F-15A/LUKE		NO SIGNIFICANT	OPERATIONAL	PARAMETERS	FOUND						
F-15A/BITBURG											
B-52G/FAIRCHILD											
FB-111A/PLATTSBURGH											
C-141A/TRAVIS											
KC-135A/FAIRCHILD											
T-38A/RANDOLPH											
A-10A/RYTLE BEACH											
A-10A/DAVIS-MONTHAN											

# APPENDIX A (Continued)

## SIGNIFICANT PARAMETER DATA SETS FOR GENERIC MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT

### SIGNIFICANT ENVIRONMENTAL PARAMETER DATA SETS

<u>SYSTEM</u>		<u>TABLE</u>
23000	Propulsion. . . . .	A-61
51A00	Flight Indicators . . . . .	A-62
51E00	Air Data System . . . . .	A-63
51N00	Horizontal Situation Indicator. . . . .	A-64
52A00	Autopilot . . . . .	A-65
63A00	UHF Communications Set. . . . .	A-66
65A00	IFF Transponder Set . . . . .	A-67
71A00	Inertial Navigation Set . . . . .	A-68
71C00	Instrument Landing Set. . . . .	A-69
71D00	TACAN Set . . . . .	A-70
71F00	Attitude-Heading Reference Set. . . . .	A-71
74F00	Radar Set . . . . .	A-72
11A01	Radome. . . . .	A-73
11A02	Windshield. . . . .	A-74
11K00	Wings . . . . .	A-75
12B00	Cockpit Furnishings . . . . .	A-76
13A00	Main Landing Gear . . . . .	A-77
13D00	Brakes . . . . .	A-78
14C00	Stabilator. . . . .	A-79
14D00	Rudder. . . . .	A-80
14H00	Flaps . . . . .	A-81
41A00	Environmental Control . . . . .	A-82
42A00	Aircraft Power Generation . . . . .	A-83
44A01	Navigation/Anti-Collision Lights. . . . .	A-84
44A02	Landing/Taxi Lights . . . . .	A-85
45A00	Hydraulic Power . . . . .	A-86
46A00	Internal Fuel Tanks . . . . .	A-87
47A01	Oxygen Regulator. . . . .	A-88
47A02	LOX Converter . . . . .	A-89
49A00	Overheat/Fire Detection and Extinguishing . . . . .	A-90

# APPENDIX A (Continued)

## SIGNIFICANT PARAMETER DATA SETS FOR GENERIC MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT

### KEY TO SIGNIFICANT ENVIRONMENTAL PARAMETERS CONTAINED IN DATA SETS

<u>I.D. NO.</u>	<u>PARAMETER</u>	<u>DIMENSION</u>
E02	Base Altitude . . . . .	Feet
E03	Runway Direction. . . . .	Compass Degrees
E04	Distance to Mountains . . . . .	Miles
E06	Number of Snow Days . . . . .	Days/Yr
E07	Total Snow Fall . . . . .	Inches
E08	Mean Snow Depth . . . . .	Inches
E09	Number of Rain Days . . . . .	Days/Yr
E12	Average Relative Humidity . . . . .	Percent
E13	Number of Thunder Days. . . . .	Days/Yr
E14	Number of Sleet Days. . . . .	Days/Yr
E16	Predominate Wind Direction. . . . .	Compass Degrees
E18	Maximum Crosswinds 10-19 MPH. . . . .	Days/Yr
E19	Maximum Crosswinds 20-29 MPH. . . . .	Days/Yr
E20	Maximum Crosswinds 30-39 MPH. . . . .	Days/Yr
E21	Maximum Crosswinds 40-49 MPH. . . . .	Days/Yr
E23	Mean Temperature. . . . .	Degrees "F"
E24	Mean Minimum Temperature. . . . .	Degrees "F"
E26	Days Max. Temp. was Above 80° "F" . . . . .	Days/Yr
E27	Days Min. Temp. was Below 32° "F" . . . . .	Days/Yr
E28	Total Number of Obstructions to Vision. . . . .	Events/Yr
E30	Average Obstruction Type. . . . .	Scaled Value
E31	Average Obstruction Severity. . . . .	Scaled Value

TABLE A-61 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 23000 PROPULSION

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E13	E18	E20					
F-15A/LAKE	28.10	19.00	193.00	20.00					
F-15A/BITBURG	56.63	19.00	188.00	32.00					
B-52G/FAIRCHILD	116.87	10.00	198.00	26.00					
FB-111A/PLATTSBURGH	49.91	25.00	171.00	27.00					
C-141A/TRAVIS	-	-	-	-					
KC-135A/FAIRCHILD	77.52	10.00	148.00	26.00					
T-38A/RANDOLPH	18.88	47.00	222.00	21.00					
A-10A/WHITLE BEACH	0.42	51.00	230.00	14.00					
A-10A/DAVIS-MONTHAN	8.74	51.00	200.00	23.00					



TABLE A-62 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 51A00 FLIGHT INDICATORS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I. D. NUMBER							
		E02	E03	E18	E19	E20			
F-15A/LUKE	1.58	1111.00	30.00	193.00	84.00	20.00			
F-15A/BITBURG	0.88	1228.00	240.00	188.00	106.00	32.00			
B-52G/FAIRCHILD	0.80	2472.00	230.00	198.00	95.00	26.00			
FB-111A/PLATTSBURGH	7.19	245.00	170.00	171.00	136.00	27.00			
C-141A/TRAVIS	6.63	62.00	30.00	123.00	146.00	79.00			
KC-135A/FAIRCHILD	0.70	2472.00	230.00	148.00	95.00	26.00			
T-38A/RANDOLPH	2.84	761.00	140.00	222.00	112.00	21.00			
A-10A/WHITLE BEACH	0.05	35.00	350.00	230.00	105.00	14.00			
A-10A/DAVIS-MONTHAN	1.48	2705.00	120.00	200.00	113.00	23.00			

TABLE A-63 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 51E00 AIR DATA SYSTEM

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER J.D. NUMBER						
		E13	E18	E19	E20	E27		
F-15A/LAKE	1.38	19.00	193.00	84.00	20.00	0.00		
F-15A/BITBURG	0.94	19.00	188.00	106.00	32.00	53.00		
B-52G/FAIRCHILD	3.47	10.00	198.00	95.00	26.00	110.00		
FB-111A/PLATTSBURGH	7.13	25.00	171.00	136.00	27.00	138.00		
C-141A/TRAVIS	7.88	7.00	123.00	146.00	74.00	3.00		
KC-135A/FAIRCHILD	3.30	10.00	148.00	95.00	26.00	110.00		
T-38A/RANDOLPH	1.34	47.00	222.00	112.00	21.00	14.00		
A-10A/MYRTLE BEACH	0.05	51.00	230.00	105.00	14.00	31.00		
A-10A/DAVIS-MONTHAN	0.43	51.00	200.00	113.00	23.00	12.00		

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TABLE A-64 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA  
SUBSYSTEM: 51N00 HORIZONTAL SITUATION INDICATOR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E04	E13	E18	E19	E20					
F-15A/LUXE	1.28	10.00	19.00	193.00	84.00	20.00					
F-15A/BITTURG	2.09	35.00	19.00	188.00	106.00	32.00					
B-52G/FAIRCHILD	5.27	15.00	10.00	198.00	95.00	26.00					
FB-111A/PLATTSBURGH	2.25	30.00	25.00	171.00	136.00	27.00					
C-141A/TRAVIS	5.50	4.50	7.00	123.00	146.00	74.00					
KC-135A/FAIRCHILD	1.56	15.00	10.00	148.00	95.00	26.00					
T-38A/RANDOLPH	1.69	55.00	47.00	222.00	112.00	21.00					
A-10A/MYRTLE BEACH	0.00	225.00	51.00	230.00	105.00	14.00					
A-10A/DAVIS-MONTHAN	1.26	15.00	51.00	200.00	113.00	23.00					

TABLE A-65 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 52A00 AUTOP11.0T

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E08	E18	E23	E24	E27			
F-15A/LUXE	1.21	0.00	193.00	69.00	57.00	0.00			
F-15A/BITBURG	0.88	3.14	188.00	48.00	43.00	53.00			
B-52G/FAIRCHILD	7.53	9.46	198.00	47.00	25.00	110.00			
FB-111A/PLATTSBURGH	9.91	9.90	171.00	45.00	1.00	138.00			
C-141A/TRAVIS	7.59	0.00	123.00	61.00	52.00	3.00			
KC-135A/FAIRCHILD	5.67	9.46	148.00	47.00	25.00	110.00			
T-38A/RANDOLPH	0.46	0.00	222.00	69.00	43.00	14.00			
A-10A/RYTLE BEACH	0.11	0.35	230.00	66.00	41.00	31.00			
A-10A/DAVIS-DORTHAM	1.13	0.00	200.00	69.00	53.00	12.00			

TABLE A-66 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 63400 UHF COMMUNICATION SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E13	E18	E19	E20	E27	E30				
F-15A/LUKE	4.31	19.00	193.00	84.00	20.00	0.00	2.41				
F-15A/BITBURG	5.03	19.00	188.00	106.00	32.00	53.00	2.75				
B-52G/FAIRCHILD	6.93	10.00	198.00	95.00	26.00	110.00	3.05				
FB-111A/PLATTSBURGH	7.34	25.00	171.00	136.00	27.00	138.00	2.69				
C-141A/TRAVIS	24.00	7.00	123.00	146.00	74.00	3.00	2.94				
KC-135A/FAIRCHILD	12.26	10.00	148.00	95.00	26.00	110.00	3.05				
T-38A/RANDOLPH	4.25	47.00	222.00	112.00	21.00	14.00	3.14				
A-10A/WHITLE BEACH	0.00	51.00	230.00	105.00	14.00	31.00	3.42				
A-10A/DAVIS-MONTHAN	0.00	51.00	200.00	113.00	23.00	12.00	2.91				

TABLE A-67 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 65400 IFF TRANSPONDER SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER						
		E06	E09	E12	E13	E31		
F-15A/LUXE	0.90	0.00	50.00	27.00	19.00	228.95		
F-15A/81TBURG	2.22	62.00	202.00	69.00	19.00	2387.00		
B-52G/FAIRCHILD	2.47	77.00	140.00	55.00	10.00	1335.90		
FB-111A/PLATTSBURGH	3.03	89.00	145.00	61.00	25.00	1402.19		
C-141A/TRAVIS	2.44	0.00	69.00	50.00	7.00	755.58		
KC-135A/FAIRCHILD	1.07	77.00	140.00	55.00	10.00	1335.90		
T-38A/RANDOLPH	2.22	0.00	130.00	53.00	47.00	1218.32		
A-10A/WRITIE BEACH	0.11	3.00	121.00	62.00	51.00	1032.84		
A-10A/DAVIS MONTHAN	0.00	0.00	77.00	26.00	51.00	317.19		

TABLE A-68 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 71A00 INERTIAL NAVIGATION SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E14	E16	E21					
F-15A/LUKE	5.45	0.00	360.00	4.00					
F-15A/BITBURG	4.34	11.00	225.00	4.00					
B-52G/FAIRCHILD	-	-	-	-					
FB-111A/PLATTSBURGH	18.03	8.00	360.00	7.00					
C-141A/TRAVIS	0.31	0.00	225.00	0.00					
KC-135A/FAIRCHILD	-	-	-	-					
T-38A/RANDOLPH	0.00	2.00	180.00	1.00					
A-10A/RYTLE BEACH	-	-	-	-					
A-10A/DAVIS-MONTHAN	-	-	-	-					

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TABLE A-69 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 71C00 INSTRUMENT LANDING SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E03	E19	E20							
F-15A/LUKE	0.52	30.00	84.00	20.00							
F-15A/BITBURG	0.03	240.00	106.00	32.00							
B-52G/FAIRCHILD	0.93	230.00	95.00	26.00							
FB-111A/PLATTSBURGH	1.00	170.00	136.00	27.00							
C-141A/TRAVIS	1.94	30.00	146.00	74.00							
KC-135A/FAIRCHILD	0.26	230.00	95.00	26.00							
T-38A/RANDOLPH	0.76	140.00	112.00	21.00							
A-10A/WHITLE BEACH	-	-	-	-							
A-10A/DAVIS-MONTHAN	-	-	-	-							



TABLE A-70 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 71000 TACAN SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E03	E09	E13	E18	E19	E20				
F-15A/LAKE	1.93	30.00	50.00	19.00	193.00	84.00	20.00				
F-15A/BITBURG	1.56	240.00	202.00	19.00	188.00	106.00	32.00				
B-52E/FAIRCHILD	3.60	230.00	140.00	10.00	198.00	95.00	26.00				
FB-111A/PLATTSBURGH	1.75	170.00	145.00	25.00	171.00	136.00	27.00				
C-141A/TRAVIS	11.38	30.00	69.00	7.00	123.00	146.00	74.00				
KC-135A/FAIRCHILD	3.15	230.00	140.00	10.00	148.00	95.00	26.00				
T-38A/DANDOLPH	0.77	140.00	130.00	47.00	222.00	112.00	21.00				
A-10A/WHITLE BEACH	0.00	350.00	121.00	51.00	230.00	105.00	14.00				
A-10A/DAVIS-MONTHAN	0.00	120.00	77.00	51.00	200.00	113.00	23.00				

TABLE A-7) SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 7100 ATTITUDE-HEADING REFERENCE SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I. D. NUMBER									
		E21	E27								
F-15A/LUKE	1.79	4.00	0.00								
F-15A/BITBURG	1.31	4.00	53.00								
B-52G/FAIRCHILD	5.20	2.00	110.00								
FB-111A/PLATTSBURGH	5.91	7.00	138.00								
C-141A/TRAVIS	0.09	0.00	3.00								
KC-135A/FAIRCHILD	1.70	2.00	110.00								
T-38A/RANDOLPH	4.24	1.00	14.00								
A-10A/WRIGHT BEACH	0.00	2.00	31.00								
A-10A/DAVIS-MONTHAN	1.61	3.00	12.00								

TABLE A-72 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 74F00 RADAR SET

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E03	E13	E16	E18	E20			
F-15A/LAKE	13.24	30.00	19.00	360.00	193.00	20.00			
F-15A/BITBURG	11.13	240.00	19.00	225.00	188.00	32.00			
B-52G/FAIRCHILD	15.60	230.00	10.00	225.00	198.00	26.00			
FB-111A/PLATTSBURGH	15.53	170.00	25.00	360.00	171.00	27.00			
C-141A/TRAVIS	21.19	30.00	7.00	225.00	123.00	74.00			
KC-135A/FAIRCHILD	8.37	230.00	10.00	225.00	148.00	26.00			
T-38A/RANDOLPH	-	-	-	-	-	-			
A-10A/WYRTLE BEACH	0.00	350.00	51.00	180.00	230.00	14.00			
A-10A/DAVIS-MONTHAN	0.61	120.00	51.00	135.00	200.00	23.00			

TABLE A-73 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 11A01 RADOME

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E02	E03	E14	E18	E19	E20				
F-15A/LUKE	1.21	1111.00	30.00	0.00	193.00	84.00	20.00				
F-15A/BITBURG	1.16	1228.00	240.00	11.00	188.00	106.00	32.00				
B-52G/FAIRCHILD	0.53	2472.00	230.00	25.00	198.00	95.00	26.00				
FB-111A/PLATTSBURGH	2.16	245.00	170.00	8.00	171.00	136.00	27.00				
C-141A/TRAVIS	4.38	62.00	30.00	0.00	123.00	146.00	74.00				
KC-135A/FAIRCHILD	0.15	2472.00	230.00	25.00	198.00	95.00	26.00				
T-38A/RANDOLPH	0.65	761.00	140.00	2.00	222.00	112.00	21.00				
A-10A/WHITLE BEACH											
A-10A/DAVIS-MONTHAN											

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TABLE A-74 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 11A02 WINDSHIELD

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E13	E18	E19	E20				
F-15A/LUKE	0.93	19.00	193.00	84.00	20.00				
F-15A/BITBURG	0.16	19.00	188.00	106.00	32.00				
B-52G/FAIRCHILD	0.33	10.00	198.00	95.00	26.00				
FB-111A/PLATTSBURGH	4.03	25.00	171.00	136.00	27.00				
C-141A/TRAVIS	7.31	7.00	123.00	146.00	74.00				
KC-135A/FAIRCHILD	2.52	10.00	198.00	95.00	26.00				
T-38A/RANDOLPH	0.18	47.00	222.00	112.00	21.00				
A-10A/MYRTLE BEACH	0.00	51.00	230.00	105.00	14.00				
A-10A/DAVIS-MONTHAN	0.20	51.00	200.00	113.00	23.00				

TABLE A-75 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 11K00 WINGS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E13	E18	E19	E20						
F-15A/LUKE	13.97	19.00	193.00	84.00	20.00						
F-15A/BITBURG	7.56	19.00	188.00	106.00	32.00						
B-52G/FAIRCHILD	17.40	10.00	198.00	95.00	26.00						
FB-111A/PLATTSBURGH	26.25	25.00	171.00	136.00	27.00						
C-141A/TRAVIS	76.47	7.00	123.00	146.00	74.00						
KC-135A/FAIRCHILD	34.81	10.00	198.00	95.00	26.00						
T-38A/RANDOLPH	4.82	47.00	222.00	112.00	21.00						
A-10A/WHITLE BEACH	0.53	51.00	230.00	105.00	14.00						
A-10A/DAVIS-MONTHAN	3.96	51.00	200.00	113.00	23.00						

TABLE A-76 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 12800 COCKPIT FURNISHINGS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E02	E03	E18	E19	E20			
F-15A/LAKE	0.10	1111.00	30.00	193.00	84.00	20.00			
F-15A/BITBURG	0.06	1228.00	240.00	188.00	106.00	32.00			
B-52G/FAIRCHILD	0.08	2472.00	230.00	198.00	95.00	26.00			
FB-111A/PLATTSBURGH	1.27	245.00	170.00	171.00	136.00	27.00			
C-141A/TRAVIS	3.65	62.00	30.00	123.00	146.00	74.00			
MC-135A/FAIRCHILD	0.19	2472.00	230.00	198.00	95.00	26.00			
T-38A/RANDOLPH	0.30	761.00	140.00	222.00	112.00	21.00			
A-10A/WRIGHT BEACH	0.00	35.00	350.00	230.00	105.00	14.00			
A-10A/DAVIS-MONTHAN	0.13	2705.00	120.00	200.00	113.00	23.00			

TABLE A-77 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 13400 MAIN LANDING GEAR

GENERIC METRICS AND HEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E03	E04	E13	E18	E20	E21		
F-15A/LUKE	12.14	30.00	10.00	19.00	193.00	20.00	4.00		
F-15A/BITBURG	8.69	240.00	35.00	19.00	188.00	32.00	4.00		
B-52G/FAIRCHILD	22.80	230.00	15.00	10.00	198.00	26.00	2.00		
FB-111A/PLATTSBURGH	10.47	170.00	30.00	25.00	171.00	27.00	7.00		
C-141A/TRAVIS	28.16	30.00	4.50	7.00	123.00	74.00	0.00		
KC-135A/FAIRCHILD	9.85	230.00	15.00	10.00	198.00	26.00	2.00		
T-38A/RANDOLPH	18.51	140.00	55.00	47.00	222.00	21.00	1.00		
A-10A/MYRTLE BEACH	0.51	350.00	225.00	51.00	230.00	14.00	2.00		
A-10A/DAVIS-MONTHAN	1.17	120.00	15.00	51.00	200.00	23.00	3.00		



TABLE A-78 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 13000 BRAKES

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E03	E16								
F-15A/LAKE	2.05	30.00	360.00								
F-15A/BITBURG	0.52	240.00	225.00								
B-52G/FAIRCHILD	1.57	230.00	225.00								
F8-111A/PLATTSBURGH	2.14	170.00	360.00								
C-141A/TRAVIS	1.36	30.00	225.00								
KC-135A/FAIRCHILD	0.80	230.00	225.00								
T-38A/RANDOLPH	1.95	140.00	180.00								
A-10A/WRTL BEACH	0.00	350.00	180.00								
A-10A/DAVIS-MONTHAN	0.00	120.00	135.00								

TABLE A-79 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 14C00 STABILATOR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E03	E13	E18	E19	E20			
F-15A/LAKE	1.48	30.00	19.00	193.00	84.00	20.00			
F-15A/BITBURG	1.38	240.00	19.00	188.00	106.00	32.00			
B-52G/FAIRCHILD	0.20	230.00	10.00	198.00	95.00	26.00			
FB-111A/PLATTSBURGH	4.88	170.00	25.00	171.00	136.00	27.00			
C-141A/TRAVIS	11.75	30.00	7.00	123.00	146.00	74.00			
KE-135A/FAIRCHILD	3.96	230.00	10.00	198.00	95.00	26.00			
T-38A/RANDOLPH	1.61	140.00	47.00	222.00	112.00	21.00			
A-10A/WRIGHT BEACH	0.00	350.00	51.00	230.00	105.00	14.00			
A-10A/DAVIS-MONTHAN	0.13	120.00	51.00	200.00	113.00	23.00			

TABLE A- 80 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 14000 RUDDER

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E03	E09	E18	E19	E20	E24	E27			
F-15A/LAKE	0.93	30.00	50.00	193.00	84.00	20.00	58.00	0.00			
F-15A/BITBURG	0.50	240.00	202.00	188.00	106.00	32.00	44.00	53.00			
B-52G/FAIRCHILD	0.70	230.00	140.00	198.00	95.00	26.00	24.00	110.00			
F8-111A/PLATTSBURGH	0.38	170.00	145.00	171.00	136.00	27.00	1.00	138.00			
C-141A/TRAVIS	3.21	30.00	69.00	123.00	146.00	74.00	53.00	3.00			
KC-135A/FAIRCHILD	0.48	230.00	140.00	198.00	95.00	26.00	24.00	110.00			
T-38A/RANDOLPH	0.84	140.00	130.00	222.00	112.00	21.00	44.00	14.00			
A-10A/WYRTLE BEACH	0.05	350.00	121.00	230.00	105.00	14.00	42.00	31.00			
A-10A/DAVIS-MONTHAN	0.83	120.00	77.00	200.00	113.00	23.00	54.00	12.00			

TABLE A-81 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 14H00 FLAPS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER						
		E18	E19	E20				
F-15A/LUKE	1.10	193.00	84.00	20.00				
F-15A/BITBURG	0.69	188.00	106.00	32.00				
B-52G/FAIRCHILD	3.67	198.00	95.00	26.00				
FB-111A/PLATTSBURGH	22.03	171.00	136.00	27.00				
C-141A/TRAVIS	28.56	123.00	146.00	74.00				
KC-135A/FAIRCHILD	7.26	198.00	95.00	26.00				
T-38A/RANDOLPH	1.14	222.00	112.00	21.00				
A-10A/RYTLE BEACH	0.05	230.00	105.00	14.00				
A-10A/DAVIS-MONTHAN	0.78	200.00	113.00	23.00				

TABLE A-82 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA  
SUBSYSTEM: 41A00 ENVIRONMENTAL CONTROL

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E02	E19	E24							
F-15A/LAKE	0.03	1111.00	84.00	58.00							
F-15A/BITBURG	0.03	1228.00	106.00	44.00							
B-52G/FAIRCHILD	0.27	2472.00	95.00	24.00							
FB-111A/PLATTSBURGH	2.06	245.00	136.00	1.00							
C-141A/TRANIS	0.81	62.00	146.00	53.00							
KC-135A/FAIRCHILD	0.00	2472.00	95.00	24.00							
T-38A/RANDOLPH	0.84	761.00	112.00	44.00							
A-10A/MYRTLE BEACH	0.00	35.00	105.00	42.00							
A-10A/DAVIS-MONTHAN	0.04	2705.00	113.00	54.00							

TABLE A-83 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 42400 AIRCRAFT POWER GENERATION

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E13									
F-15A/LUKE	0.17	19.00									
F-15A/BITBURG	0.23	19.00									
B-52G/FAIRCHILD	1.13	10.00									
FB-111A/PLATTSBURGH	0.38	25.00									
C-141A/TRAVIS	0.54	7.00									
KC-135A/FAIRCHILD	0.53	10.00									
T-38A/RANDOLPH	0.78	47.00									
A-10A/WYRTLE BEACH	0.00	51.00									
A-10A/DAVIS-MONTHAN	0.04	51.00									

TABLE A-84 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 44A01 NAVIGATION/ANTI-COLLISION LIGHTS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E02	E03	E16	E18	E19	E20	E30			
F-15A/LUKE	2.72	1111.00	30.00	360.00	193.00	84.00	20.00	2.41			
F-15A/BITBURG	1.47	1228.00	240.00	225.00	188.00	106.00	32.00	2.75			
B-52G/FAIRCHILD	0.33	2472.00	230.00	225.00	198.00	95.00	26.00	3.05			
FB-111A/PLATTSBURGH	3.09	245.00	170.00	360.00	171.00	136.00	27.00	2.69			
C-141A/TRAVIS	4.75	62.00	30.00	225.00	123.00	146.00	74.00	2.94			
KC-135A/FAIRCHILD	0.04	2472.00	230.00	225.00	198.00	95.00	26.00	3.05			
T-38A/RANDOLPH	1.16	761.00	140.00	180.00	222.00	112.00	21.00	3.14			
A-10A/RYLE BEACH	0.00	35.00	350.00	180.00	230.00	105.00	14.00	3.42			
A-10A/DAVIS-MONTHAN	0.39	2705.00	120.00	135.00	200.00	113.00	23.00	2.91			

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TABLE A-85 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 44A02 LANDING/TAXI LIGHTS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E18	E19	E20					
F-15A/LUKE	0.38	193.00	84.00	20.00					
F-15A/BIIBURG	0.50	188.00	106.00	32.00					
B-52G/FAIRCHILD	2.13	198.00	95.00	26.00					
FB-111A/PLATTSBURGH	6.72	171.00	136.00	27.00					
C-141A/TRAVIS	9.84	123.00	146.00	74.00					
KC-135A/FAIRCHILD	0.96	198.00	95.00	26.00					
T-38A/RANDOLPH	0.73	222.00	112.00	21.00					
A-10A/RYTLE BEACH	0.00	230.00	105.00	14.00					
A-10A/DAVIS-MONTHAN	0.21	200.00	113.00	23.00					



TABLE A-86 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 45A00 HYDRAULIC POWER

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER							
		E06	E07	E08	E14	E23	E24		
F-15A/LUKE	0.21	0.00	0.00	0.00	0.00	69.00	58.00		
F-15A/BITBURG	0.02	62.00	15.70	3.14	11.00	48.00	44.00		
B-52G/FAIRCHILD	1.57	77.00	47.30	9.46	25.00	47.00	24.00		
FB-111A/PLATTSBURGH	1.29	89.00	59.90	9.90	8.00	45.00	1.00		
C-141A/TRAVIS	0.20	0.00	0.00	0.00	0.00	61.00	53.00		
KC-135A/FAIRCHILD	1.22	77.00	47.30	9.46	25.00	47.00	24.00		
T-38A/RANDOLPH	0.23	0.00	0.00	0.00	2.00	59.00	44.00		
A-10A/WHITLE BEACH	0.00	3.00	0.70	0.35	1.00	66.00	42.00		
A-10A/DAVIS-MONTHAN	0.17	0.00	0.00	0.00	0.00	69.00	54.00		

TABLE A-87 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 46A00 INTERNAL FUEL TANKS

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E13	E16	E18	E19	E20	E23	E26			
F-15A/LUKE	1.55	19.00	360.00	193.00	84.00	20.00	69.00	214.00			
F-15A/BITBURG	2.44	19.00	225.00	188.00	106.00	32.00	48.00	4.00			
B-52G/FAIRCHILD	1.66	10.00	225.00	198.00	95.00	26.00	47.00	52.00			
FB-111A/PLATTSBURGH	5.46	25.00	360.00	171.00	136.00	27.00	45.00	31.00			
C-141A/TRAVIS	5.03	7.00	225.00	123.00	146.00	74.00	61.00	108.00			
KC-135A/FAIRCHILD	2.44	10.00	225.00	198.00	95.00	26.00	47.00	52.00			
T-38A/RANDOLPH	0.07	47.00	180.00	222.00	112.00	21.00	69.00	205.00			
A-10A/WHITLE BEACH	0.05	51.00	180.00	230.00	105.00	14.00	66.00	142.00			
A-10A/DAVIS-MONTHAN	0.17	51.00	135.00	200.00	113.00	23.00	69.00	199.00			

TABLE A-88 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 47A01 OXYGEN REGULATOR

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E06	E07	E16	E21	E23	E24	E27	E28		
F-15A/LUXE	0.34	0.00	0.00	360.00	4.00	69.00	58.00	0.00	95.00		
F-15A/BITBURG	0.78	62.00	15.70	225.00	4.00	48.00	44.00	53.00	869.00		
B-52G/FAIRCHILD	0.34	77.00	47.30	225.00	2.00	47.00	24.00	110.00	438.00		
F8-111A/PLATTSBURGH	1.70	89.00	59.90	360.00	7.00	45.00	1.00	138.00	551.00		
C-141A/TRAVIS	0.33	0.00	0.00	225.00	0.00	61.00	53.00	3.00	257.00		
KC-135A/FAIRCHILD	0.22	77.00	47.30	225.00	2.00	47.00	24.00	110.00	438.00		
T-38A/RANDOLPH	0.45	0.00	0.00	180.00	1.00	69.00	44.00	14.00	388.00		
A-10A/WRTLE BEACH	0.05	3.00	0.70	180.00	2.00	66.00	42.00	31.00	302.00		
A-10A/DAVIS-MONTHAN	0.39	0.00	0.00	135.00	3.00	69.00	54.00	12.00	109.00		

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TABLE A- 89 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA

SUBSYSTEM: 47A02 LOX CONVERTER

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E06	E07	E08	E14	E23	E24	E27			
F-15A/LUKE	0.14	0.00	0.00	0.00	0.00	69.00	58.00	0.00			
F-15A/BITBURG	0.31	62.00	15.70	3.14	11.00	48.00	44.00	53.00			
B-52G/FAIRCHILD	1.78	77.00	47.30	9.46	25.00	47.00	24.00	110.00			
FB-111A/PLATTSBURGH	0.97	89.00	59.90	9.90	8.00	45.00	1.00	138.00			
C-141A/TRAVIS	0.47	0.00	0.00	0.00	0.00	61.00	53.00	3.00			
KC-135A/FAIRCHILD	0.44	77.00	47.30	9.46	25.00	47.00	24.00	110.00			
T-38A/RAHDOLPH	0.54	0.00	0.00	0.00	2.00	69.00	44.00	14.00			
A-10A/MYRTLE BEACH	0.05	3.00	0.70	0.35	1.00	66.00	42.00	31.00			
A-10A/DAVIS-MONTHAN	0.09	0.00	0.00	0.00	0.00	69.00	54.00	12.00			

TABLE A-90 SIGNIFICANT ENVIRONMENTAL PARAMETER DATA  
SUBSYSTEM: OVERHEAT/FIRE DETECTION & EXTINGUISHING

GENERIC METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	ENVIRONMENTAL CHARACTERISTIC PARAMETER I.D. NUMBER									
		E07	E16	E18	E19	E21	E23	E24	E27		
F-15A/LUKE	0.07	0.00	360.00	193.00	84.00	4.00	69.00	58.00	0.00		
F-15A/BITBURG	0.08	15.70	225.00	188.00	106.00	4.00	48.00	44.00	53.00		
B-52G/FAIRCHILD	0.11	47.30	225.00	198.00	95.00	2.00	47.00	24.00	110.00		
FB-111A/PLATTSBURGH	0.30	59.90	360.00	171.00	136.00	7.00	45.00	1.00	138.00		
C-141A/TRAVIS	0.17	0.00	225.00	123.00	146.00	0.00	61.00	53.00	3.00		
KC-135A/FAIRCHILD	0.06	47.30	225.00	198.00	95.00	2.00	47.00	24.00	110.00		
T-38A/RANDOLPH	0.07	0.00	180.00	222.00	112.00	1.00	69.00	44.00	14.00		
A-10A/WRIGHT BEACH	0.04	0.70	180.00	230.00	105.00	2.00	66.00	42.00	31.00		
A-10A/DAVIS-MONTGOMERY	0.03	0.00	135.00	200.00	113.00	3.00	69.00	54.00	12.00		

APPENDIX B  
ANNOTATED LISTING OF  
GENERIC MAINTENANCE METRICS AND WEIGHTINGS  
REGRESSION EQUATIONS

The tables contained in this appendix display the generic maintenance metrics and weightings multiple regression equations developed from the data sets of Appendix A. Each equation is annotated with statistics indicating how well it fits the input data and can be expected to estimate Maintenance Action Demand within the relevant range of the data. These statistics are:

- The Adjusted Multiple Correlation Coefficient.
- The Adjusted Standard Error of the Estimate.
- The Computed "T" Statistic for each included independent variable.

General remarks about each regression model are also included where appropriate.

Tables B-1 through B-15 present regression models for each of the thirty study equipments which estimate Maintenance Action Demand as a function of significant Equipment Parameters.

Tables B-16 through B-30 estimate MAD as a function of significant Operational Parameters for each equipment item.

Tables B-31 through B-45 estimate MAD as a function of significant Environmental Parameters for each equipment item.

MAINTENANCE METRICS MODELS  
 BASED ON  
 EQUIPMENT CHARACTERISTIC PARAMETERS

ESTIMATORS OF MAINTENANCE ACTION DEMAND FOR--

<u>SYSTEM</u>	<u>NOMENCLATURE</u>	<u>TABLE</u>
23000	Propulsion . . . . .	B-1
51A00	Flight Indicators . . . . .	B-1
51E00	Air Data System. . . . .	B-2
51N00	Horizontal Situation Indicator . . . . .	B-2
52A00	Autopilot . . . . .	B-3
63A00	UHF Communication Set . . . . .	B-3
65A00	IFF Transponder Set. . . . .	B-4
71A00	Inertial Navigation Set . . . . .	B-4
71C00	Instrument Landing Set . . . . .	B-5
71D00	TACAN Set . . . . .	B-5
71F00	Attitude-Heading Reference Set . . . . .	B-6
74F00	RADAR Set . . . . .	B-6
11A01	Radome . . . . .	B-7
11A02	Windshield . . . . .	B-7
11K00	Wings . . . . .	B-8
12B00	Cockpit Furnishings (Seats). . . . .	B-8
13A00	Main Landing Gear. . . . .	B-9
13D00	Brakes . . . . .	B-9
14C00	Stabilator . . . . .	B-10
14D00	Rudder . . . . .	B-10
14H00	Flaps . . . . .	B-11
41A00	Environmental Control (Water Separator). . . . .	B-11
42A00	Aircraft Power (Generators). . . . .	B-12
44A01	Navigation/Anti-Collision Lights . . . . .	B-12
44A02	Landing/Taxi Lights . . . . .	B-13
45A00	Hydraulic Power (Pumps) . . . . .	B-13
46A00	Internal Fuel (Tanks) . . . . .	B-14
47A01	Oxygen Regulator . . . . .	B-14
47A02	LOX Converter . . . . .	B-15
49A00	Engine Overheat/Fire Detection . . . . .	B-15

TABLE B-1

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Propulsion System (WUC 23000)

Regression Equation:  $MAD = -44.142 + 0.421(P02) + 0.192(P04)$

Where -- P02-To No. of Installed Engines  
P04-Weight Per Engine

Computed T = 2.044  
Computed T = 3.274  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.829  
Adjusted Standard Error = 25.827

Remarks: 1. Model based on 8 valid data points per input variable.  
2. Developed from data set Table A-1.

Equipment Item: Flight Indicator (WUC 51A00)

Regression Equation:  $MAD = -0.557 + 0.720(A03)$

Where -- A03 Equipment Weight

Computed T = 4.737  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.832  
Adjusted Standard Error = 1.152

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-2.



TABLE B-2

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Air Data System (WUC 51E00)

Regression Equation:  $MAD = +8.271 + 0.155(A03) - 1.680(A07) - 0.298(A16) - 0.054(A19)$

Where -- A03 - Equipment Weight  
A07 - Cooling Method  
A16 - On-Off Cycles Per Flying Hour  
A19 - Failure/Abort Rated

Computed T = 8.220  
Computed T = 2.396  
Computed T = 2.245  
Computed T = 3.174  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.975  
Adjusted Standard Error = 0.860

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-3.

Equipment Item: Horizontal Situation Indicator (WUC 51N00)

Regression Equation:  $MAD = +4.643 - 1.076(A07) - 0.296(A16) + 0.0065(A18)$

Where -- A07 - Cooling Method  
A16 - On-Off Cycles Per Flying Hour  
A18 - Ground/Flight Operating Ratio

Computed T = -2.036  
Computed T = -2.475  
Computed T = +2.854  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.845  
Adjusted Standard Error = 1.168

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-4.

TABLE B-3

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Autopilot (WUC 52A00)

Regression Equation:  $MAD = +39.196 - 1.163(A03) + 0.032(A04) - 2.885(A08) - 3.698(A13) - 0.262(A19)$

Where -- A03 - Equipment Weight  
A04 - Equipment Volume  
A08 - Protection Devices  
A13 - Avg. Operating Time Per Sortie  
A19 - Failure/Abort Ratio

Computed T = -6.998  
Computed T = +8.648  
Computed T = -11.587  
Computed T = -9.365  
Computed T = -11.332  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.996  
Adjusted Standard Error = 0.562

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-5.

Equipment Item: UHF Communication Set (WUC 63A00)

Regression Equation:  $MAD = -3.131 + 3.418(A03) - 0.081(A04) - 1.562(A05)$

Where -- A03 - Equipment Weight  
A04 - Equipment Volume  
A05 - SRU Count

Computed T = +3.961  
Computed T = -3.511  
Computed T = -1.992  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.886  
Adjusted Standard Error = 4.347

Remarks: 1. Model based on 10 valid data points per input variable.  
2. Developed from data set Table A-6.

TABLE B-4

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: IFF Transponder Set (WUC 65A00)

Regression Equation:  $MAD = +1.147 + 0.377(A02) - 0.0185(A09)$

Where -- A02 = Equipment Location on ACFT.  
A09 = Number of Test Points

Computed T = +2.917  
Computed T = -3.196  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.845  
Adjusted Standard Error = 0.684

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-7.

Equipment Item: Inertial Navigation Set (WUC 71A00)

Regression Equation:  $MAD = -0.034 + 0.346(A05)$

Where -- A05 = SRU Count

Computed T = +9.230  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.983  
Adjusted Standard Error = 1.563

Remarks: 1. Model based on 5 valid data points per input variable.  
2. Developed from data set Table A-8.

TABLE B-5

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Instrument Landing Set (WUC 71C00)

Regression Equation:  $MAD = -0.456 + 0.200(A02) + 0.011(A06) + 0.043(A15)$

Where -- A02 - Equipment Location on Aircraft  
A06 - Operating Temperature  
A15 - Retest OK Rate

Computed T = +3.237  
Computed T = +2.868  
Computed T = +7.468  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.986  
Adjusted Standard Error = 0.155

Remarks: 1. Model based on 6 valid data points per input variable.  
2. Developed from data set Table A-9.

Equipment Item: TACAN Set (WUC 71D00)

Regression Equation:  $MAD = +0.366 + 0.174(A03) - 0.159(A18)$

Where -- A03 - Equipment Weight  
A18 - Ground/Flight Operating Ratio

Computed T = +3.639  
Computed T = -3.438  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.881  
Adjusted Standard Error = 2.283

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-10.

TABLE B-6

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Attitude - Heading Reference Set (WUC 71F00)

Regression Equation:  $MAD = +6.371 - 1.022(A08) - 0.074(A12)$

Where -- A08 - Protection Devices  
A12 - Age Unreliability

Computed T = -3.712  
Computed T = -2.528  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.808  
Adjusted Standard Error = 1.400

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-11.

Equipment Item: RADAR Set (WUC 74F00)

Regression Equation:  $MAD = -139.80 - 5.896(A02) + 0.211(A12) + 1.837(A19)$

Where -- A02 - Equipment Location on ACFT.  
A12 - Age Unreliability  
A19 - Failure/Abort Ratio

Computed T = -10.456  
Computed T = +5.613  
Computed T = +8.465  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.986  
Adjusted Standard Error = 1.634

Remarks: 1. Model based on 8 valid data points per input variable.  
2. Developed from data set Table A-12.

TABLE B-7

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Radome (WUC 11A01)

Regression Equation:  $MAD = -0.16 + 0.2988(F08)$

Where -- F08 - Type of Failure

Computed T = +3.371  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.573  
 Adjusted Standard Error = 1.090

Remarks: 1. Model based on 7 valid data points per input variable.  
 2. Developed from data set Table A-13.

Equipment Item: Windshield (WUC 11A02)

Regression Equation:  $MAD = +73.211 + 0.0069(F03) - 0.7321(F07)$

Where -- F03 - Equipment Weight  
 F07 - Support Equipment Reliability

Computed T = +1.187  
 Computed T = -2.452  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.846  
 Adjusted Standard Error = 1.538

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-14.

TABLE B-8

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Wings (WUC 11K00)

Regression Equation:  $MAD = -2.8658 + 0.0263(F04)$

Where -- F04 - Equipment Volume

Computed T = +8.325  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.953  
 Adjusted Standard Error = 7.687

Remarks: 1. Model used on 9 valid data points per input variable.  
 2. Developed from data set Table A-15.

Equipment Item: Seats (WUC 12B00) Cockpit Furnishings

Regression Equation:  $MAD = -0.4209 + 0.008(F11)$

Where -- F11 - Ground to Flight Operating Ratio

Computed T = +4.341  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.854  
 Adjusted Standard Error = 0.662

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-16.

TABLE B-9

## GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Main Landing Gear (WUC 13A00)

Regression Equation:  $MAD = -0.834 + 0.002(F03) + 1.126(F06) + 4.505(F13) - 0.021(F22)$

Where -- F03 - Equipment Weight  
 F06 - Support Equipment Complexity  
 F13 - Removals to Access Other Equipment  
 F22 - Landings Per Tire

Computed T = +4.136  
 Computed T = +4.613  
 Computed T = +7.570  
 Computed T = -1.467  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.989  
 Adjusted Standard Error = 1.956

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-17.

Equipment Item: Brakes (WUC 13D00)

Regression Equation:  $MAD = +6.6688 - 0.0598(F09)$

Where -- F09 - Flight Brake Squawk Verification Rate

Computed T = +28.972  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = -0.659  
 Adjusted Standard Error = 0.605

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-18.



TABLE B-10

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_e EQ_e) + \dots + B_{en} EQ_{en}$$

Equipment Item: Stabilator (WUC 14C00)

Regression Equation:  $MAD = -4.7109 + 0.0032(F03) + 0.9834(F06)$

Where -- F03 - Weight  
F06 - Support Equipment Complexity

Computed T = +4.916  
Computed T = +3.279  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.914  
Adjusted Standard Error = 1.762

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-19.

Equipment Item: Rudder (WUC 14D00)

Regression Equation: None (No Correlated Data)

Where --

Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient =  
Adjusted Standard Error =

Remarks: 1. No equipment parameters found which were significantly correlated with Maintenance Action Demand over the 9 aircraft/base combinations investigated.

TABLE B-11

## GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_1EQ_1 + \dots + B_nEQ_n)$$

Equipment Item: Flaps (WUC 14H00)

Regression Equation:  $MAD = -10.1007 + 0.0099(F03) - 0.0082(F04) + 2.2542(F06) - 0.2792(F08) + 2.6026(F10)$

Where -- F03 - Equipment Weight  
 F04 - Equipment Volume  
 F06 - Support Equipment Complexity  
 F08 - Type of Failure  
 F10 - On/Off Cycles Per Sortie

Computed T = +12.185  
 Computed T = -1.938  
 Computed T = +10.838  
 Computed T = -1.516  
 Computed T = +8.207  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.995  
 Adjusted Standard Error = 1.768

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-21.

Equipment Item: Water separator (WUC 41A00) Environmental Control

Regression Equation:  $MAD = -0.0517 + 0.1196(F08)$

Where -- F08 - Type of Failure

Computed T = +2.952  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.651  
 Adjusted Standard Error = 0.495

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-22.

TABLE B-12

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Generator Assy. (WUC 42A00) Aircraft Power Generation

Regression Equation:  $MAD = +0.1755 + 1.0992(F13)$

Where -- F13 - Removals to Access Other Equipment

Computed T = +4.101  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.840  
 Adjusted Standard Error = 0.213

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-23.

Equipment Item: Anti Collision Lights (WUC 44A01)

Regression Equation:  $MAD = +1.1342 + 0.2321(F03) - 0.4572(F06)$

Where -- F03 - Equipment Weight  
 F06 - Support Equipment Complexity

Computed T = +4.817  
 Computed T = -2.564  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.955  
 Adjusted Standard Error = 0.565

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-24.

TABLE B-13

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Landing/Taxi Lights (WUC44A02)

Regression Equation:  $MAD = -1.4892 + 0.2112(F03) + 32.8196(F13)$

Where -- F03 - Equipment Weight  
F13 - Removals to Access

Computed T = +5.941  
Computed T = +7.401  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.973  
Adjusted Standard Error = 0.920

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-25.

Equipment Item: Hydraulic Pumps (WUC 45A00) Hydraulic Power

Regression Equation:  $MAD = +0.8148 + 0.0009(F04) - 0.0630(F11)$

Where -- F04 - Equipment Volume  
F11 - Ground to Flight Operating Ratio

Computed T = +2.169  
Computed T = -2.345  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.761  
Adjusted Standard Error = 0.467

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-26.

TABLE B-14

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en})$$

Equipment Item: Fuel Tanks (WUC 46A00)

Regression Equation:  $MAD = -1.7168 + 0.6864(F16)$

Where -- F16 - Equipment Protection Methodology

Computed T = +3.892  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.591  
 Adjusted Standard Error = 1.536

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-27.

Equipment Item: Oxygen Regulator (WUC 47A01)

Regression Equation:  $MAO = +1.4902 - 0.4519(F03)$

Where -- F03 - Equipment Weight

Computed T = +6.050  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.615  
 Adjusted Standard Error = 0.362

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-28.

TABLE B-15

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1}) + \dots + B_{en}EQ_{en}$$

Equipment Item: Lox Converter (WUC 47A02)

Regression Equation:  $MAD = -0.336 + 0.1324(F08)$

Where -- F08 - Type of Failure

Computed T = +3.698  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.813  
 Adjusted Standard Error = 0.340

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-29.

Equipment Item: Engine Fire Detection (WUC 49A00)

Regression Equation:  $MAD = +0.0686 - 0.0322(F04) + 0.0093(F08)$

Where -- F04 - Equipment Volume  
 F08 - Type of Failure

Computed T = -2.400  
 Computed T = +1.805  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.769  
 Adjusted Standard Error = 0.062

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-30.

MAINTENANCE METRICS MODELS  
 BASED ON  
 OPERATIONAL CHARACTERISTIC PARAMETERS

ESTIMATORS OF MAINTENANCE ACTION DEMAND FOR--

<u>SYSTEM</u>	<u>NOMENCLATURE</u>	<u>TABLE</u>
23000	Propulsion . . . . .	B-16
51A00	Flight Indicators . . . . .	B-16
51E00	Air Data System . . . . .	B-17
51N00	Horizontal Situation Indicator . . . . .	B-17
52A00	Autopilot . . . . .	B-18
63A00	UHF Communication Set . . . . .	B-18
65A00	IFF Transponder Set . . . . .	B-19
71A00	Inertial Navigation Set . . . . .	B-19
71C00	Instrument Landing Set . . . . .	B-20
71D00	TACAN Set . . . . .	B-20
71F00	Attitude-Heading Reference Set . . . . .	B-21
74F00	RADAR Set . . . . .	B-21
11A01	Radome . . . . .	B-22
11A02	Windshield . . . . .	B-22
11K00	Wings. . . . .	B-23
12B00	Cockpit Furnishings (Seats) . . . . .	B-23
13A00	Main Landing Gear. . . . .	B-24
13D00	Brakes . . . . .	B-24
14C00	Stabilator . . . . .	B-25
14D00	Rudder . . . . .	B-25
14H00	Flaps . . . . .	B-26
41A00	Environmental Control (Water Separator) . . . . .	B-26
42A00	Aircraft Power (Generators). . . . .	B-27
44A01	Navigation/Anti-Collision Lights . . . . .	B-27
44A02	Landing/Taxi Lights. . . . .	B-28
45A00	Hydraulic Power (Pumps). . . . .	B-28
46A00	Internal Fuel (Tanks). . . . .	B-29
47A01	Oxygen Regulator . . . . .	B-29
47A02	LOX Converter. . . . .	B-30
49A00	Engine Overheat/Fire Detection . . . . .	B-30

TABLE B-16

## GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EHAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EHAD = A + (B_{01}OP_{01} + \dots + B_{on}OP_{on})$$

Equipment Item: Propulsion System (WUC 23000)

Regression Equation:  $MAD = -73.317 + 0.034(\theta_{10}) - 1.013(\theta_{14}) + 0.303(\theta_{27}) + 11.756(\theta_{32}) + 25.771(\theta_{33})$

Where --  $\theta_{10}$  - Avg. Cruise Altitude

$\theta_{14}$  - Avg. Landing Wt.

$\theta_{27}$  - Operations Sorties Per Acft.

$\theta_{32}$  - Acft. Crew Size

$\theta_{33}$  - Avg. Sortie Length

Computed T = +5.010

Computed T = -2.639

Computed T = +2.571

Computed T = +1.503

Computed T = +3.606

Computed T =

Computed T =

Adjusted Multiple Correlation Coefficient = 0.990

Adjusted Standard Error = 10.203

- Remarks: 1. Model based on 8 valid data points per input variable.  
2. Developed from data set Table A-31.

Equipment Item: Flight Indicators (WUC 51A00)

Regression Equation:  $MAD = -17.267 + 0.003(\theta_{11}) + 0.002(\theta_{13}) + 0.0086(\theta_{17}) + 0.020(\theta_{25})$

Where --  $\theta_{11}$  - Avg. Descent Rate

$\theta_{13}$  - Minimum Landing Distance

$\theta_{17}$  - Operations Flying Hours Per ACFT.

$\theta_{25}$  - Total Sorties Per ACFT.

Computed T = +2.498

Computed T = +5.487

Computed T = +4.420

Computed T = +2.655

Computed T =

Computed T =

Computed T =

Adjusted Multiple Correlation Coefficient = 0.958

Adjusted Standard Error = 1.069

- Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-32.



TABLE B-17

GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on})$$

Equipment Item: Air Data System (WUC 51E00)

Regression Equation:  $MAD = +4.628 - 0.0017(\emptyset08) + 0.0013(\emptyset13) - 0.312(\emptyset23)$

Where --  $\emptyset08$  - Avg. Climb Rate  
 $\emptyset13$  - Minimum Landing Distance  
 $\emptyset23$  - Avg. No. of ACFT. on Alert

Computed T = -3.624  
 Computed T = +2.707  
 Computed T = -1.391  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.872  
 Adjusted Standard Error = 1.779

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-33.

Equipment Item: Horizontal Situation Indicator (WAC 51N00)

Regression Equation:  $MAD = +1.378 + 0.036(\emptyset14) - 0.615(\emptyset33)$

Where --  $\emptyset14$  - Avg. Landing Wt.  
 $\emptyset33$  - Avg. Sortie Length

Computed T = +2.962  
 Computed T = -1.458  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.866  
 Adjusted Standard Error = 1.069

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-34.

TABLE B-18

## GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1} OP_{o1} + \dots + B_{on} OP_{on})$$

Equipment Item: Autopilot (WUC 52A00)

Regression Equation:  $MAD = +7.294 - 0.0015(\emptyset08) + 0.388(\emptyset23)$

Where --  $\emptyset08$  - Avg. Climb Rate  
 $\emptyset23$  - Avg. No. of ACFT. on Alert

Computed T = -2.869  
 Computed T = +2.283  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.884  
 Adjusted Standard Error = 2.054

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-35.

Equipment Item: UHF Communication Set (WUC 63A00)

Regression Equation:  $MAD = +10.022 - 0.002(\emptyset08) + 0.910(\emptyset18)$

Where --  $\emptyset08$  - Avg. Climb Rate  
 $\emptyset18$  - Misc. Flying Hours Per ACFT.

Computed T = -2.482  
 Computed T = +4.164  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.905  
 Adjusted Standard Error = 3.611

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-36.

TABLE B-19

GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on})$$

Equipment Item: IFF Transponder Set (WUC 65A00)

Regression Equation:  $MAD = -14.439 + 0.260(\theta 05) - 0.017(\theta 09) - 0.119(\theta 12) - 0.706(\theta 30)$

Where --  $\theta 05$  - Avg. Take-Off Speed  
 $\theta 09$  - Avg. Cruise Speed  
 $\theta 12$  - Avg. Landing Speed  
 $\theta 30$  - Maximum ACFT. Speed

Computed T = +2.575  
 Computed T = -1.822  
 Computed T = -2.124  
 Computed T = -1.237  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.790  
 Adjusted Standard Error = 0.962

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-37.

Equipment Item: Inertial Navigation Set (WUC 71A00)

Regression Equation:  $MAD = -10.681 + 0.004(\theta 13)$

Where --  $\theta 13$  - Minimum Landing Distance

Computed T = +7.401  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.974  
 Adjusted Standard Error = 1.931

Remarks: 1. Model based on 5 valid data points per input variable.  
 2. Developed from data set Table A-38.

TABLE B-20

GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1}OP_{o1} + \dots B_{on}OP_{on})$$

Equipment Item: Instrument Landing Set (WUC 71C00)

Regression Equation:  $MAD = -0.035 + 0.0024(\theta15) - 0.0044(\theta27) - 0.0025(\theta32)$

Where --  $\theta15$  - Total Flying Hours Per ACFT.  
 $\theta27$  - Operations Sorties Per ACFT.  
 $\theta32$  - ACFT. Crew Size

Computed T = +2.155  
 Computed T = -1.182  
 Computed T = -0.040  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.846  
 Adjusted Standard Error = 0.468

Remarks: 1. Model based on 7 valid data points per input variable.  
 2. Developed from data set Table A-39.

Equipment Item: Tacan Set (WUC 71D00)

Regression Equation:  $MAD = -2.056 + 0.0074(\theta15) + 0.425(\theta32)$

Where --  $\theta15$  - Total Flying Hours Per ACFT.  
 $\theta32$  - ACFT. Crew Size

Computed T = +7.230  
 Computed T = +3.563  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.968  
 Adjusted Standard Error = 1.003

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-40.

TABLE B-21

GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on})$$

Equipment Item: Attitude - Heading Reference Set (WUC 71F00)

Regression Equation:  $MAD = -13.778 + 0.112(\theta 05)$

Where --  $\theta 05$  - Avg. Take-Off Speed

Computed T = +3.187  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.769  
 Adjusted Standard Error = 1.475

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-41.

Equipment Item: Radar Set (WUC 74F00)

Regression Equation:  $MAD = +12.669 + 0.006(\theta 10) - 0.0045(\theta 11)$

Where --  $\theta 10$  - Avg. Cruise Altitude  
 $\theta 11$  - Avg. Descent Rate

Computed T = +3.424  
 Computed T = -3.217  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.870  
 Adjusted Standard Error = 4.331

Remarks: 1. Model based on 8 valid data points per input variable.  
 2. Developed from data set Table A-42.

TABLE B-22

## GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{01}OP_{01} + \dots B_{on}OP_{on})$$

Equipment Item: Radome (WUC 11A01)

Regression Equation:  $MAD = -10.099 + 0.104(\theta 05) - 0.051(\theta 12) + 0.0062(\theta 21) + 0.0046(\theta 25)$

Where --  $\theta 05$  - Avg. Take-Off Speed  
 $\theta 12$  - Avg. Landing Speed  
 $\theta 21$  - Operations Landings Per ACFT.  
 $\theta 25$  - Total Sorties Per ACFT.

Computed T = +5.828  
 Computed T = -2.685  
 Computed T = +10.354  
 Computed T = +4.390  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.996  
 Adjusted Standard Error = 0.218

Remarks: 1. Model based on 7 valid data points per input variable.  
 2. Developed from data set Table A-43.

Equipment Item: Windshields (WUC 11A02)

Regression Equation:  $MAD = +2.6135 - 0.0056(\theta 15) + 0.0400(\theta 21) - 0.0463(\theta 27)$

Where --  $\theta 15$  - Total Flying Hours Per ACFT.  
 $\theta 21$  - Operations Landings Per ACFT.  
 $\theta 27$  - Operations Sorties Per ACFT.

Computed T = -2.145  
 Computed T = +5.019  
 Computed T = -4.239  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.956  
 Adjusted Standard Error = 0.922

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-49.

TABLE B-23

## GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1}OP_{o1}) + \dots + B_{on}OP_{on}$$

Equipment Item: Wings (WUC 11K)

Regression Equation:  $MAD = +94.2723 + 0.2681(\emptyset 02) - 0.0113(\emptyset 08) + 0.0078(\emptyset 10) - 0.4550(\emptyset 12) - 0.1245(\emptyset 14) - 0.0382(\emptyset 17) + 0.1199(\emptyset 21)$

Where --	$\emptyset 02$ - Years Aft Have Been on Base	Computed T = +1.704
	$\emptyset 08$ - Avg. Climb Rate	Computed T = -9.733
	$\emptyset 10$ - Avg. Cruise altitude	Computed T = +7.537
	$\emptyset 12$ - Avg. Landing Speed	Computed T = -3.673
	$\emptyset 14$ - Avg. Landing Wt.	Computed T = -6.552
	$\emptyset 17$ - Operations Flying Hours Per ACFT.	Computed T = -4.456
	$\emptyset 21$ - Operations Landings Per ACFT.	Computed T = +8.950

Adjusted Multiple Correlation Coefficient = 0.999  
Adjusted Standard Error = 2.886

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-45.

Equipment Item: Seats (WUC 12B) Cockpit Furnishings

Regression Equation:  $MAD = -2.0778 + 0.0005(\emptyset 08) + 0.0129(\emptyset 12) + 0.0032(\emptyset 17) + 0.0158(\emptyset 21) - 0.0043(\emptyset 25) - 0.0307(\emptyset 27)$

Where --	$\emptyset 08$ - Avg. Climb Rate	Computed T = +4.475
	$\emptyset 12$ - Avg. Landing Speed	Computed T = +2.269
	$\emptyset 17$ - Operations Flying Hours Per ACFT.	Computed T = +7.672
	$\emptyset 21$ - Operations Landings Per ACFT.	Computed T = +10.306
	$\emptyset 25$ - Total Sorties Per ACFT.	Computed T = -5.523
	$\emptyset 27$ - Operations Sorties Per ACFT.	Computed T = -7.290

Adjusted Multiple Correlation Coefficient = 1.000  
Adjusted Standard Error = 0.060

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-46.

TABLE B-24

## GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on})$$

Equipment Item: Main Landing Gear (WUC 13A)

Regression Equation:  $MAD = -5.1619 + 0.0021(\theta_{10}) + 0.2407(\theta_{14}) - 0.0211(\theta_{15}) + 0.0343(\theta_{16}) + 0.0218(\theta_{19}) + 0.0368(\theta_{21}) - 4.6455(\theta_{32})$

Where --  $\theta_{10}$  - Avg. Cruise Altitude  
 $\theta_{14}$  - Avg. Landing Wt.  
 $\theta_{15}$  - Total Flying Hours Per ACFT.  
 $\theta_{16}$  - Training Flying Hours Per ACFT.  
 $\theta_{19}$  - Total Landings Per ACFT.  
 $\theta_{21}$  - Operations Landings Per ACFT.  
 $\theta_{32}$  - ACFT Crew Size

Computed T = +4.652  
 Computed T = +5.874  
 Computed T = -3.838  
 Computed T = +3.756  
 Computed T = +6.528  
 Computed T = +3.652  
 Computed T = -4.457

Adjusted Multiple Correlation Coefficient = 0.996  
 Adjusted Standard Error = 2.277

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-47.

Equipment Item: Brakes (WUC 130)

Regression Equation:  $MAD = -12.007 + 2.1964(\theta_{03}) + 0.077(\theta_{05}) + 0.0059(\theta_{09}) + 0.0046(\theta_{16}) - 0.0023(\theta_{20}) + 0.0138(\theta_{26}) - 0.001(\theta_{31})$

Where --  $\theta_{03}$  - Avg. Mission Mix  
 $\theta_{05}$  - Avg. Take-Off Speed  
 $\theta_{09}$  - Avg. Cruise Speed  
 $\theta_{16}$  - Training Flying Hours Per ACFT.  
 $\theta_{20}$  - Training Landings Per ACFT.  
 $\theta_{26}$  - Training Sorties Per ACFT.  
 $\theta_{31}$  - ACFT Service Ceiling

Computed T = +21.751  
 Computed T = +31.453  
 Computed T = +5.528  
 Computed T = +8.974  
 Computed T = -12.578  
 Computed T = +14.143  
 Computed T = -9.042

Adjusted Multiple Correlation Coefficient = 1.000  
 Adjusted Standard Error = 0.072

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-48.



TABLE B-25

## GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1} OP_{o1} + \dots + B_{on} OP_{on})$$

Equipment Item: Stabilator (WUC 14C00)

Regression Equation:  $MAD = +1.5652 + 0.0361(\theta 21) - 0.0447(\theta 27)$

Where --  $\theta 21$  - Operations Landings Per ACFT.  
 $\theta 27$  - Operations Sorties Per ACFT.

Computed T = +4.691  
 Computed T = -2.743  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.943  
 Adjusted Standard Error = 1.448

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-49.

Equipment Item: Rudder (WUC 14000)

Regression Equation:  $MAD = -0.4337 + 0.0039(\theta 15) - 0.0015(\theta 17) - 0.6222(\theta 34)$

Where --  $\theta 15$  - Total Flying Hours Per ACFT.  
 $\theta 17$  - Operations Flying Hours Per ACFT.  
 $\theta 34$  - accidents (Major/Minor) Per ACFT.

Computed T = +16.622  
 Computed T = -6.231  
 Computed T = -2.279  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.997  
 Adjusted Standard Error = 0.084

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-50.

TABLE B-26

GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on})$$

Equipment Item: Flaps (WUC 14H00)

Regression Equation:  $MAD = +13.1908 - 0.0313(\emptyset15) + 0.1853(\emptyset21) - 0.2099(\emptyset27)$

Where --  $\emptyset15$  - Total Flying Hours Per ACFT.  
 $\emptyset21$  - Operations Landings Per ACFT.  
 $\emptyset27$  - Operations sorties Per ACFT.

Computed T = -2.050  
 Computed T = +3.994  
 Computed T = -3.306  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.918  
 Adjusted Standard Error = 5.363

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-51.

Equipment Item: Water Separator (WUC 41A00) Environmental Control

Regression Equation: None (No Correlated Data)

Where --

Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient =  
 Adjusted Standard Error =

Remarks: 1. No operational parameters found which were significantly correlated with Maintenance Action Demand over the 9 aircraft/base combinations investigated.

TABLE B-27

GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{01}OP_{01} + \dots + B_{on}OP_{on})$$

Equipment Item: Generator Assy. (WUC 42A00) Aircraft Power

Regression Equation:  $MAD = -1.7639 + 0.023(\theta 07) + 0.0817(\theta 32)$

Where --	$\theta 07$ - Avg Take-Off wt as Percent of Max. Take-Off Wt.	Computed T = +4.010
	$\theta 32$ - ACFT Crew Size	Computed T = +4.977
		Computed T =
		Computed T =
		Computed T =
		Computed T =

Adjusted Multiple Correlation Coefficient = 0.937  
Adjusted Standard Error = 0.149

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-53.

Equipment Item: Anti-Collision Lights (WUC 44A01)

Regression Equation:  $MAD = +9.3845 - 0.0022(\theta 11) + 0.0079(\theta 21) - 0.0061(\theta 25) - 0.0201(\theta 27)$

Where --	$\theta 11$ - Avg Descent Rate	Computed T = -13.628
	$\theta 21$ - Operations Landings Per ACFT.	Computed T = +7.347
	$\theta 25$ - Total Sorties Per ACFT.	Computed T = -5.838
	$\theta 27$ - Operations Sorties Per ACFT.	Computed T = -9.052
		Computed T =
		Computed T =
		Computed T =

Adjusted Multiple Correlation Coefficient = 0.995  
Adjusted Standard Error = 0.228

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-54.

TABLE B-28

## GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1}OP_{o1}) + \dots + B_{on}OP_{on}$$

Equipment Item: Landing/Taxi Lights (WUC 44A02)

Regression Equation:  $MAD = +3.3516 - 0.0071(\theta 15) + 0.0522(\theta 21) - 0.0597(\theta 27)$

Where --  $\theta 15$  - Total Flying Hours Per ACFT.  
 $\theta 21$  - Operations Landings Per ACFT.  
 $\theta 27$  - Operations Sorties Per ACFT.

Computed T = -1.426  
 Computed T = +3.469  
 Computed T = -2.899  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.919  
 Adjusted Standard Error = 1.740

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-55.

Equipment Item: Hydraulic Pumps (WUC 45A00) Hydraulic Power

Regression Equation:  $MAD = -1.7478 + 0.0167(\theta 05) + 0.0001(\theta 06) - 0.0002(\theta 08) + 0.0021(\theta 14) - 0.1828(\theta 32) + 0.1715(\theta 33)$

Where --  $\theta 05$  - Avg. Take-Off Speed  
 $\theta 06$  - Median Take-Off Distance  
 $\theta 08$  - Avg. Climb Rate  
 $\theta 14$  - Avg. Landing Wt.  
 $\theta 32$  - ACFT Crew Size  
 $\theta 33$  - Avg. Sortie Length

Computed T = +14.508  
 Computed T = +7.074  
 Computed T = -10.867  
 Computed T = +1.438  
 Computed T = -6.097  
 Computed T = +5.591  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.999  
 Adjusted Standard Error = 0.059

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-56.

TABLE B-29

## GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{01}OP_{01} + \dots B_{on}OP_{on})$$

Equipment Item: Fuel Tanks (WUC 46A00)

Regression Equation:  $MAD = +7.8102 + 0.0014(\theta_{10}) - 0.0012(\theta_{11}) - 0.0172(\theta_{15}) + 0.0145(\theta_{17}) + 0.0311(\theta_{21}) - 0.0646(\theta_{27})$

Where --  $\theta_{10}$  - Avg. Cruise Altitude  
 $\theta_{11}$  - Avg. Descent Rate  
 $\theta_{15}$  - Total Flying Hours Per ACFT.  
 $\theta_{17}$  - Operations Flying Hours Per ACFT.  
 $\theta_{21}$  - Operations Landings Per ACFT.  
 $\theta_{27}$  - Operations Soties Per ACFT.

Computed T = +2.704  
 Computed T = -1.663  
 Computed T = -3.095  
 Computed T = +1.751  
 Computed T = +2.892  
 Computed T = -3.292  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.909  
 Adjusted Standard Error = 1.682

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-57.

Equipment Item: Oxygen Regulator (WUC 47A01)

Regression Equation:  $MAD = -0.0196 + 0.3685(\theta_{30})$

Where --  $\theta_{30}$  - Maximum ACFT Speed

Computed T = +1.908  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.585  
 Adjusted Standard Error = 0.422

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-58.

TABLE B-30

GENERIC MAINTENANCE METRIC MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant operational parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on})$$

Equipment Item: Lox Converter (WUC 47A02)

Regression Equation:  $MAD = -2.041 + 0.0147(005) - 0.0001(006) + 0.282(033)$

Where -- 005 - Avg. Take-Off Speed  
006 - Median Take-Off Distance  
033 - Avg. Sortie Length

Computed T = +3.496  
Computed T = -2.588  
Computed T = +5.843  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.960  
Adjusted Standard Error = 0.195

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-59.

Equipment Item: Engine Fire Detection (WUC 49A00)

Regression Equation: None (No Correlated Data)

Where --

Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient =  
Adjusted Standard Error =

Remarks: 1. No operational parameters found which were significantly correlated with Maintenance Action Demand over the 9 aircraft/base combinations investigated.

MAINTENANCE METRICS MODELS  
 BASED ON  
 ENVIRONMENTAL CHARACTERISTICS PARAMETERS

ESTIMATORS OF MAINTENANCE ACTION DEMAND FOR--

<u>SYSTEM</u>	<u>NOMENCLATURE</u>	<u>TABLE</u>
23000	Propulsion . . . . .	B-31
51A00	Flight Indicators . . . . .	B-31
51E00	Air Data System . . . . .	B-32
51N00	Horizontal Situation Indicator . . . . .	B-32
52A00	Autopilot . . . . .	B-33
63A00	UHF Communication Set . . . . .	B-33
65A00	IFF Transponder Set . . . . .	B-34
71A00	Inertial Navigation Set . . . . .	B-34
71C00	Instrument Landing Set . . . . .	B-35
71D00	TACAN Set . . . . .	B-35
71F00	Attitude-Heading Reference Set . . . . .	B-36
74F00	RADAR Set . . . . .	B-36
11A01	Radome . . . . .	B-37
11A02	Windshield . . . . .	B-37
11K00	Wings. . . . .	B-38
12B00	Cockpit Furnishings (Seats) . . . . .	B-38
13A00	Main Landing Gear . . . . .	B-39
13D00	Brakes . . . . .	B-39
14C00	Stabilator . . . . .	B-40
14D00	Rudder . . . . .	B-40
14H00	Flaps . . . . .	B-41
41A00	Environmental Control (Water Separator) . . . . .	B-41
42A00	Aircraft Power (Generators) . . . . .	B-42
44A01	Navigation/Anti-Collision Lights . . . . .	B-42
44A02	Landing/Taxi Lights . . . . .	B-43
45A00	Hydraulic Power (Pumps) . . . . .	B-43
46A00	Internal Fuel (Tanks). . . . .	B-44
47A01	Oxygen Regulator . . . . .	B-44
47A02	LOX Converter. . . . .	B-45
49A00	Engine Overheat/Fire Detection . . . . .	B-45

TABLE B-31

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots B_{nn}EN_{nn})$$

Equipment Item: Propulsion System (WUC 23000)

Regression Equation:  $MAD = +99.239 - 1.883(E13)$

Where -- E13 - No. Thunder Days

Computed T = 4.157  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.862  
 Adjusted Standard Error = 21.388

Remarks: 1. Model based on 8 valid data points per input variable.  
 2. Developed from data set Table A-61.

Equipment Item: Flight Indicators (WUC 51A00)

Regression Equation:  $MAD = -7.598 - 0.008(E03) + 0.104(E19)$

Where -- E03 - Runway Direction  
 E19 - Days Maximum Crosswind's (20-29 MPH)

Computed T = -1.879  
 Computed T = +4.634  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.906  
 Adjusted Standard Error = 1.290

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-62.



TABLE B-32

## GENERIC MAINTENANCE METRICS MODELS.

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Air Data System (WUC 51E00)

Regression Equation:  $MAD = -7.571 - 0.132(E13) + 0.146(E19) - 0.071(E20)$

Where --	E13 - No. of Thunder Days	Computed T = -4.317
	E19 - Days Maximum Crosswind's (20-29 MPH)	Computed T = +4.488
	E20 - Days Maximum Crosswind's (30-39 MPH)	Computed T = -1.619
		Computed T =
		Computed T =
		Computed T =
		Computed T =

Adjusted Multiple Correlation Coefficient = 0.943  
Adjusted Standard Error = 1.205

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-63.

Equipment Item: Horizontal Situation Indicator (WUC 51N00)

Regression Equation:  $MAD = -5.866 - 0.074(E13) + 0.039(E18) + 0.097(E20)$

Where --	E13 - No. of Thunder Days	Computed T = -2.165
	E18 - Days Maximum Crosswind's (10-19 MPH)	Computed T = +1.550
	E20 - Days Maximum Crosswind's (30-39 MPH)	Computed T = +2.513
		Computed T =
		Computed T =
		Computed T =
		Computed T =

Adjusted Multiple Correlation Coefficient = 0.829  
Adjusted Standard Error = 1.310

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-64.

TABLE B-33

GENERIC MAINTENANCE METRICS MODELS.  
(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Autopilot (WUC 52A00)	
Regression Equation: $MAD = +12.681 + 0.474(E08) - 0.057(E18)$	
Where --	<div> E08 - Mean Snow Depth  E18 - Day's Maximum Crosswind's (10-19 MPH) </div> <div> Computed T = +2.734  Computed T = -2.411  Computed T =  Computed T =  Computed T =  Computed T =  Computed T = </div>
Adjusted Multiple Correlation Coefficient = 0.850 Adjusted Standard Error = 2.316	
Remarks: 1. Model based on 9 valid data points per input variable. 2. Developed from data set Table A-65.	
Equipment Item: UHF Communication Set (WUC 63A00)	
Regression Equation: $MAD = -2.359 - 0.258(E13) - 0.089(E18) + 0.118(E19) - 0.039(E27) + 7.457(E30)$	
Where --	<div> E13 - No. of Thunder Days  E18 - Day's Maximum Crosswind's (10-19 MPH)  E19 - Day's Maximum Crosswind's (20-29 MPH)  E27 - Day's Minimum Temperature Was Below 32°F  E30 - Predominate Type of Obstruction </div> <div> Computed T = -2.954  Computed T = -1.804  Computed T = +2.176  Computed T = -2.462  Computed T = +2.599  Computed T =  Computed T = </div>
Adjusted Multiple Correlation Coefficient = 0.969 Adjusted Standard Error = 2.966	
Remarks: 1. Model based on 9 valid data points per input variable. 2. Developed from data set Table A-66.	

TABLE B-34

GENERIC MAINTENANCE METRICS MODELS.

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: IFF Transponder Set (WUC 65A00)

Regression Equation:  $MAD = +2.930 + 0.012(E06) - 0.0535(E09) + 0.0042(E31)$

Where -- E06 - No. of Snow Days  
E09 - No. of Rain Days  
E31 - Avg. Obstruction Severity

Computed T = +1.151  
Computed T = -1.941  
Computed T = +2.154  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.705  
Adjusted Standard Error = 0.994

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-67

Equipment Item: Inertial Navigation Set (WUC 71A00)

Regression Equation:  $MAD = -2.203 + 2.447(E21)$

Where -- E21 - Days Maximum Crosswind's (40-49 MPH)

Computed T = +4.217  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.925  
Adjusted Standard Error = 3.220

Remarks: 1. Model based on 5 valid data points per input variable.  
2. Developed from data set Table A-68.

TABLE B-35

## GENERIC MAINTENANCE METRICS MODELS.

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Instrument Landing Set (WUC 71C00)

Regression Equation:  $MAD = -0.031 + 0.025(E20)$

Where -- E20 - Days Maximum Crosswind's (30-39 MPH)

Computed T = +2.597  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.758  
 Adjusted Standard Error = 0.444

Remarks: 1. Model based on 7 valid data points per input variable.  
 2. Developed from data set Table A-69

Equipment Item: TACAN Set (WUC 71D00)

Regression Equation:  $MAD = +0.875 + 0.007(E03) - 0.022(E09) - 0.0596(E13) + 0.163(E20)$

Where -- E03 - Runway Direction  
 E09 - No. of Rain Days  
 E13 - No. of Thunder Days  
 E20 - Days Maximum Crosswinds (30-39 MPH)

Computed T = +1.575  
 Computed T = -2.367  
 Computed T = -2.993  
 Computed T = +7.445  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.978  
 Adjusted Standard Error = 1.025

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-70.

TABLE B-36

GENERIC MAINTENANCE METRICS MODELS.

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Attitude-Heading Reference Set (WUC 71F00)

Regression Equation:  $MAD = +1.093 + 0.0255(E27)$

Where -- E27 - Day's Minimum Temperature was below 32°F

Computed T = +2.143

Computed T =

Computed T =

Computed T =

Computed T =

Computed T =

Computed T =

Adjusted Multiple Correlation Coefficient = 0.629

Adjusted Standard Error = 1.794

Remarks: 1. Model based on 9 valid data points per input variable.

2. Developed from data set Table A-71

Equipment Item: Radar Set (WUC 74F00)

Regression Equation:  $MAD = -17.455 - 0.233(E13) + 0.042(E16) + 0.083(E18) + 0.284(E20)$

Where -- E13 - No. of Thunder Days

E16 - Predominate Wind Direction

E18 - Days Maximum Crosswinds (10-19 MPH)

E20 - Days Maximum Crosswinds (30-39 MPH)

Computed T = -3.012

Computed T = +3.178

Computed T = +1.536

Computed T = +3.315

Computed T =

Computed T =

Computed T =

Adjusted Multiple Correlation Coefficient = 0.963

Adjusted Standard Error = 3.056

Remarks: 1. Model based on 8 valid data points per input variable.

2. Developed from data set Table A-72.

TABLE B-37

GENERIC MAINTENANCE METRICS MODELS.  
(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Radome (WUC 11A01)

Regression Equation:  $MAD = +5.8181 - 0.0006(E02) - 0.0234(E18) + 0.0192(E20)$

Where -- E02 - Base Altitude  
E18 - Days Maximum Crosswinds (10-19 MPH)  
E20 - Days Maximum Crosswinds (30-39 MPH)

Computed T = -5.132  
Computed T = -3.324  
Computed T = +1.743  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.992  
Adjusted Standard Error = 0.261

Remarks: 1. Model based on 7 valid data points per input variable.  
2. Developed from data set Table A-73.

Equipment Item: Windshield (WUC 11A02)

Regression Equation:  $MAD = +15.5688 - 0.0722(E18)$

Where -- E18 - Days Maximum Crosswinds (10-19 MPH)

Computed T = -5.385  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.898  
Adjusted Standard Error = 1.177

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-74.

TABLE B-38

GENERIC MAINTENANCE METRICS MODELS.  
(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Wings (MUC 11K00)

Regression Equation:  $MAD = -0.5229 - 0.3386(E13) + 1.032(E20)$

Where -- E13 - No. of Thunder Days  
E20 - Days Maximum Crosswinds (30-39 MPH)

Computed T = -1.462  
Computed T = +4.285  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.921  
Adjusted Standard Error = 10.663

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-75.

Equipment Item: Seats (MUC 12B00) Cockpit Furnishings

Regression Equation:  $MAD = -3.0919 + 0.0216(E19) + 0.0462(E20)$

Where -- E19 - Days Maximum Crosswinds (20-29 MPH)  
E20 - Days Maximum Crosswinds (30-39 MPH)

Computed T = +2.469  
Computed T = +4.666  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.961  
Adjusted Standard Error = 0.380

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-76.

TABLE B-39

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Main Landing Gear (WUC 13A00)

Regression Equation:  $MAD = +2.0616 + 0.3565(E20)$

Where -- E20 - Days Maximum Crosswinds (30-39 MPH)

Computed T = +2.424  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.676  
 Adjusted Standard Error = 7.296

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-77.

Equipment Item: Brakes (WUC 13D00)

Regression Equation:  $MAD = +0.0304 - 0.0026(E03) + 0.0067(E16)$

Where -- E03 - Runway Direction  
 E16 - Predominate Wind Direction

Computed T = -1.158  
 Computed T = +2.198  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.733  
 Adjusted Standard Error = 0.670

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-78.



TABLE B-40

GENERIC MAINTENANCE METRICS MODELS.

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_n)EN_n + \dots + B_{nn}EN_{nn}$$

Equipment Item: Stabilator (WUC 14C00)

Regression Equation:  $MAD = -2.8538 + 0.1942(E20)$

Where -- E20 -- Days Maximum Crosswinds (30-39 MPH)

Computed T = +5.723

Computed T =

Computed T =

Computed T =

Computed T =

Computed T =

Computed T =

Adjusted Multiple Correlation Coefficient = 0.908

Adjusted Standard Error = 1.684

Remarks: 1. Model based on 9 significant data points per input variable.

2. Developed from data set Table A-79.

Equipment Item: Rudder (WUC 14D00)

Regression Equation:  $MAD = -2.6783 - 0.0023(E03) - 0.0038(E09) + 0.0136(E18) + 0.0614(E24)$

Where -- E03 - Runway Direction

E09 - No. of Rain Days

E18 - Days Maximum Crosswinds (10-19 MPH)

E24 - Mean Minimum Temperature

Computed T = -4.229

Computed T = -3.824

Computed T = +4.851

Computed T = +13.695

Computed T =

Computed T =

Computed T =

Adjusted Multiple Correlation Coefficient = 0.996

Adjusted Standard Error = 0.112

Remarks: 1. Model based on 9 valid data points per input variable.

2. Developed from data set Table A-80.

TABLE B-41

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Flaps (WUC 14H00)

Regression Equation:  $MAD = +18.583 - 0.1954(E18) + 0.2366(E19)$

Where -- E18 -- Days Maximum Crosswinds (10-19 MPH)  
E19 -- Days Maximum Crosswinds (20-29 MPH)

Computed T = -2.835  
Computed T = +2.197  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.921  
Adjusted Standard Error = 4.769

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-81

Equipment Item: Water Separator (WUC 41A00) Environmental Control

Regression Equation:  $MAD = -1.249 + 0.022(E19) - 0.0188(E24)$

Where -- E19 -- Days Maximum Crosswinds (20-29 MPH)  
E24 -- Mean Minimum Temperature

Computed T = +3.070  
Computed T = -2.441  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.849  
Adjusted Standard Error = 0.423

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-82.

TABLE B-42

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Generator Assy. (WUC 42A00) Aircraft Power

Regression Equation:  $MAD = +0.669 - 0.0093(E13)$

Where -- E13 - No. of Thunder Days

Computed T = -1.375  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.461  
 Adjusted Standard Error = 0.349

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-83.

Equipment Item: Anti-Collision Lights (WUC 44A01)

Regression Equation:  $MAD = +11.0074 - 0.0007(E02) - 0.0046(E03) - 0.0257(E18) - 0.9807(E30)$

Where -- E02 - Base Altitude  
 E03 - Runway Direction  
 E18 - Days Maximum Crosswinds (10-19 MPH)  
 E30 - Avg. Obstruction (to vision) Type

Computed T = -12.402  
 Computed T = -5.531  
 Computed T = -10.434  
 Computed T = -3.672  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.996  
 Adjusted Standard Error = 0.209

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-84.

TABLE B-43

## GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Landing/Taxi Lights (WUC 44A02)

Regression Equation:  $MAD = +6.1366 - 0.0654(E18) + 0.0795(E19)$

Where -- E18 -- Days Maximum Crosswinds (10-19 MPH)  
E19 -- Days Maximum Crosswinds (20-29 MPH)

Computed T = -3.315  
Computed T = +2.580  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.941  
Adjusted Standard Error = 1.365

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-85.

Equipment Item: Hydraulic Pumps (WUC 45A00) Hydraulic Power

Regression Equation:  $MAD = 0.1558 - 0.01505(E06) + 0.252(E08)$

Where -- E06 -- No. of Snow Days  
E08 -- Mean Snow Depth

Computed T = -3.756  
Computed T = +7.190  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.979  
Adjusted Standard Error = 0.146

Remarks: 1. Model based on 9 valid points per input variable.  
2. Developed from data set Table A-86

TABLE B-44

GENERIC MAINTENANCE METRICS MODELS.

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Fuel Tanks (WUC 46A00)

Regression Equation:  $MAD = +5.03 + 0.009(E16) - 0.027(E18) + 0.035(E19) - 0.064(E23)$

Where --	E16 - Predominate Wind Direction	Computed T = +5.283
	E18 - Days Maximum Crosswinds (10-19 MPH)	Computed T = -4.757
	E19 - Days Maximum Crosswinds (20-29 MPH)	Computed T = +4.178
	E23 - Mean Temperature	Computed T = -5.638
		Computed T =
		Computed T =
		Computed T =

Adjusted Multiple Correlation Coefficient = 0.990  
Adjusted Standard Error = 0.410

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-87.

Equipment Item: Oxygen Regulator (WUC 47A01)

Regression Equation:  $MAD = +6.414 + 0.0099(E06) + 0.0412(E07) - 0.0026(E16) + 0.195(E21) - 0.0291(E23) - 0.0672(E24) - 0.0515(E27)$

Where --	E06 - No. of Snow Days	Computed T = +1.283
	E07 - Total Snow	Computed T = +3.933
	E16 - Predominate Wind Direction	Computed T = -3.512
	E21 - Days Maximum Crosswinds (40-49 MPH)	Computed T = +6.624
	E23 - Mean Temperature	Computed T = -1.801
	E24 - Mean Minimum Temperature	Computed T = -7.797
	E27 - Days Minimum Temperature Below 32°F	Computed T = -6.803

Adjusted Multiple Correlation Coefficient = 0.992  
Adjusted Standard Error = 0.170

Remarks: 1. Model based on 9 valid data points per input variable.  
2. Developed from data set Table A-88.

TABLE B-45

GENERIC MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: LOX Converter (WUC 47A02)

Regression Equation:  $MAD = 0.2299 + 0.0842(E08)$

Where -- E08 - Mean Snow Depth

Computed T = +2.682  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.712  
 Adjusted Standard Error = 0.411

Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from data set Table A-89.

Equipment Item: Engine Fire Detection (WUC 49A00)

Regression Equation:  $MAD = -0.2536 + 0.0006(E16) + 0.0026(E19) - 0.0017(E24)$

Where -- E16 - Predominate Wind Direction  
 E19 - Days Maximum Crosswinds (20-29 MPH)  
 E24 - Mean Minimum Temperature

Computed T = +6.542  
 Computed T = +8.469  
 Computed T = -4.622  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.983  
 Adjusted Standard Error = 0.020

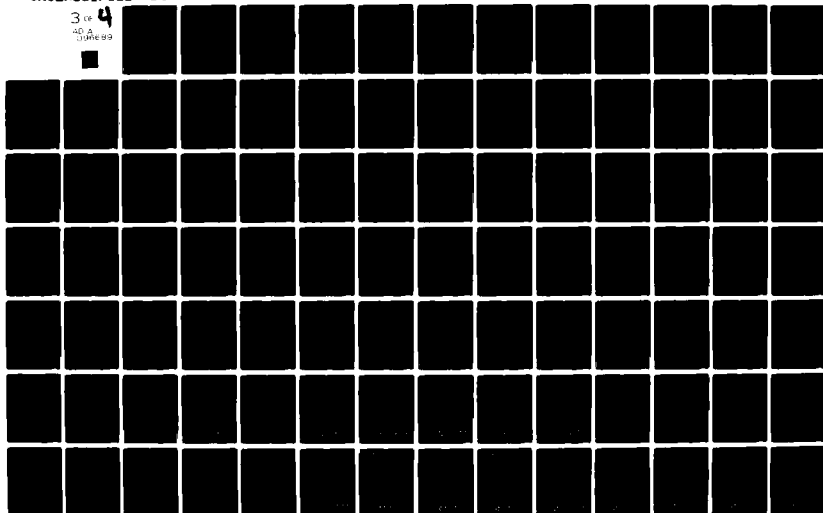
Remarks: 1. Model based on 9 valid data points per input variable.  
 2. Developed from Table A-90.

AD-A096 689

BOEING AEROSPACE CO SEATTLE WA PRODUCT SUPPORT/EXPER--ETC F/6 5/1  
DEVELOPMENT OF MAINTENANCE METRICS TO FORECAST RESOURCE DEMANDS--ETC(U)  
OCT 80 D K HINDES, G A WALKER, D H WILSON F33615-77-C-0075  
D194-10089-3 ML

UNCLASSIFIED

3 of 4  
AD A  
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## APPENDIX C

### SIGNIFICANT PARAMETER DATA FROM GENERIC MODELS

This appendix contains a data set for each of the thirty study equipments (Tables C-1 through C-30) which is composed of the significant equipment, operational, and environmental parameters remaining in the three generic maintenance metrics models for that equipment item. The generic models which identify the parameters to be included in these Appendix C composite data sets were developed by the application of a step-wise regression process to the significant parameter data sets contained in Appendix A.

These Appendix C composite data sets were in turn used as source data for the development of the composite maintenance metrics models contained in Appendix D.



# APPENDIX C

## SIGNIFICANT PARAMETER DATA SETS FOR COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT

### GENERIC MODELS PARAMETER DATA SETS

<u>SYSTEM</u>		<u>TABLE</u>
23000	Propulsion . . . . .	C-1
51A00	Flight Indicators . . . . .	C-2
51E00	Air Data System . . . . .	C-3
51N00	Horizontal Situation Indicator . . . . .	C-4
52A00	Autopilot . . . . .	C-5
63A00	UHF Communication Set . . . . .	C-6
65A00	IFF Transponder Set . . . . .	C-7
71A00	Inertial Navigation Set . . . . .	C-8
71C00	Instrument Landing Set . . . . .	C-9
71D00	TACAN Set . . . . .	C-10
71F00	Attitude-Heading Reference Set . . . . .	C-11
74F00	Radar Set . . . . .	C-12
11A01	Radome . . . . .	C-13
11A02	Windshield . . . . .	C-14
11K00	Wings . . . . .	C-15
12B00	Cockpit Furnishings . . . . .	C-16
13A00	Main Landing Gear . . . . .	C-17
13D00	Brakes . . . . .	C-18
14C00	Stabilator . . . . .	C-19
14D00	Rudder . . . . .	C-20
14H00	Flaps . . . . .	C-21
41A00	Environmental Control . . . . .	C-22
42A00	Aircraft Power Generation . . . . .	C-23
44A01	Navigation/Anti-Collision Lights . . . . .	C-24
44A02	Landing/Taxi Lights . . . . .	C-25
45A00	Hydraulic Power . . . . .	C-26
46A00	Internal Fuel Tanks . . . . .	C-27
47A01	Oxygen Regulator . . . . .	C-28
47A02	LOX Converter . . . . .	C-29
49A00	Overheat/Fire Detection and Extinguishing . . . . .	C-30

# APPENDIX C (Continued)

## KEY TO SIGNIFICANT EQUIPMENT PARAMETERS CONTAINED IN DATA SETS

<u>I.D.</u> <u>NO.</u>	<u>PARAMETER</u>	<u>DIMENSION</u>
P02	Total Number of Engines . . . . .	Avg. No./Base
P04	Weight per Engine . . . . .	Lbs ÷ 10
A02	Equipment Location on Aircraft . . . . .	Scaled Value
A03	Equipment Weight . . . . .	Pounds
A04	Equipment Volume . . . . .	Cu. In.
A05	SRU Count. . . . .	No. SRUs in Equip. Item
A06	Operating Temperature . . . . .	Scaled Value based on °F
A07	Cooling Method . . . . .	Scaled Value
A08	Protection Devices . . . . .	Scaled Value
A09	Number of Test Points . . . . .	No. T.P. available to Org. Maint.
A12	AGE Unreliability . . . . .	Percent
A13	Average Operating Time per Sortie . . . . .	Hours
A15	Retest OK Rate . . . . .	Percent
A16	On-Off Cycles per Flight Hour . . . . .	No./10 Flying Hours
A18	Ground/Flight Operating Ratio . . . . .	Percent
A19	Failure/Abort Ratio . . . . .	Percent
F03	Equipment Weight . . . . .	Pounds
F04	Equip. Volume (Equip. Area if appropriate) . . . . .	Cu. Ft. or Cu. In. or Sq. Ft.
F06	Support Equipment Complexity . . . . .	Scaled Value
F07	Support Equipment Reliability . . . . .	Percent
F08	Type of Failure Problems . . . . .	Scaled Value
F09	Inflight Squawk Verification Rate . . . . .	Percent
F10	On-Off Cycles per Sortie . . . . .	Cycles/Sortie
F11	Ground to Flight Operating Ratio . . . . .	Percent
F13	Removals to Access Other Equipment . . . . .	No./Acft./Yr.
F16	Equipment Protection Methodology . . . . .	Scaled Value
F22	Landings per Tire (Landing Gear only) . . . . .	Landings per Tire

# APPENDIX C (Continued)

## KEY TO SIGNIFICANT OPERATIONAL PARAMETERS CONTAINED IN DATA SETS

<u>I.D. NO.</u>	<u>PARAMETER</u>	<u>DIMENSION</u>
002	Years Acft Have Been On Base. . . . .	No. Years
003	Average Mission Mix . . . . .	Scaled Value
005	Average Take-Off Speed. . . . .	Knots
006	Median Take-Off Distance. . . . .	Feet
007	Percent of Max Take-Off Weight. . . . .	Avg. T.O. Wt. as % of Max
008	Average Climb Rate. . . . .	Feet/Min.
009	Average Cruise Speed. . . . .	Knots
010	Average Cruise Altitude . . . . .	Feet ÷ 10
011	Average Descent Rate. . . . .	Feet/Min.
012	Average Landing Speed . . . . .	Knots
013	Minimum Landing Distance. . . . .	Feet
014	Average Landing Weight. . . . .	Lbs. ÷ 1000
015	Total Flying Hours per Aircraft . . . . .	Hours/Acft/Yr
016	Training Flying Hours per Aircraft. . . . .	Hours/Acft/Yr
017	Operations Flying Hours per Aircraft. . . . .	Hours/Acft/Yr
018	Misc. Flying Hours per Aircraft . . . . .	Hours/Acft/Yr
019	Total Landings per Aircraft . . . . .	Landings/Acft/Yr
020	Training Landings per Aircraft. . . . .	Landings/Acft/Yr
021	Operations Landings per Aircraft. . . . .	Landings/Acft/Yr
023	Average No. of Aircraft on Alert. . . . .	Acft/Month
025	Total Sorties per Aircraft. . . . .	Sorties/Acft/Yr
026	Training Sorties per Acft . . . . .	Sorties/Acft/Yr
027	Operations Sorties per Aircraft . . . . .	Sorties/Acft/Yr
030	Maximum Aircraft Speed. . . . .	Mach No. Nominal
031	Aircraft Service Ceiling. . . . .	Feet ÷ 10
032	Aircraft Crew Size. . . . .	Crewmen per Acft
033	Average Sortie Length . . . . .	Hours/Sortie
034	Accidents (Major & Minor) per Aircraft. . . . .	No./Acft/Yr

# APPENDIX C (Continued)

## KEY TO SIGNIFICANT ENVIRONMENTAL PARAMETERS CONTAINED IN DATA SETS

<u>I.D. NO.</u>	<u>PARAMETER</u>	<u>DIMENSION</u>
E02	Base Altitude. . . . .	Feet
E03	Runway Direction . . . . .	Compass Degrees
E06	Number of Snow Days. . . . .	Days/Yr
E07	Total Snow Fall. . . . .	Inches
E08	Mean Snow Depth. . . . .	Inches
E09	Number of Rain Days. . . . .	Days/Yr
E13	Number of Thunder Days . . . . .	Days/Yr
E16	Predominate Wind Direction . . . . .	Compass Degrees
E18	Maximum Crosswinds 10-19 MPH . . . . .	Days/Yr
E19	Maximum Crosswinds 20-29 MPH . . . . .	Days/Yr
E20	Maximum Crosswinds 30-39 MPH . . . . .	Days/Yr
E21	Maximum Crosswinds 40-49 MPH . . . . .	Days/Yr
E23	Mean Temperature . . . . .	Degrees "F"
E24	Mean Minimum Temperature . . . . .	Degrees "F"
E27	Days Min. Temp. was Below 32 <sup>0</sup> "F". . . . .	Days/Yr
E30	Average Obstruction Type . . . . .	Scaled Value
E31	Average Obstruction Severity . . . . .	Scaled Value

TABLE C-1 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 2300 PROPULSION

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		P02	P04	Ø10	Ø14	Ø27	Ø32	Ø33	E13		
F-15A/LINE	28.10	58.00	302.10	2000.00	31.50	26.72	2.00	1.26	19.00		
F-15A/MTTURNS	56.63	64.00	300.00	2000.00	33.50	148.34	1.00	1.51	9.00		
B-52G/FATRCCHILD	116.87	120.00	380.70	3300.00	240.00	4.43	9.00	8.25	10.00		
FB-111A/PLATTSBURGH	49.91	64.00	490.00	1250.00	60.00	60.72	2.00	3.75	25.00		
C-141A/TRAVIS	-	-	-	-	-	-	-	-	-		
KC-135A/FATRCCHILD	77.52	108.00	432.00	2500.00	127.50	4.81	6.00	4.95	10.00		
T-38A/DANDOLPH	18.88	166.00	51.60	1175.00	9.50	0.00	2.00	1.38	47.00		
A-10A/MYRTLE BEACH	0.42	38.00	142.70	408.75	30.00	93.00	1.00	1.90	51.00		
A-10A/DAVIS-MONTHAN	8.74	46.00	142.70	1000.00	27.50	60.00	1.00	2.05	51.00		

NOTE: Dropped C-141A case from data set on grounds that C-141A propulsion as presently used belongs more to a population of scheduled air carriers than to a population of typical military operations aircraft.

TABLE C-2 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 51400 FLIGHT INDICATORS

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER 1.D. NUMBERS									
		A03	Ø11	Ø13	Ø17	Ø25	E03	E19			
F-15A/LAKE	1.58	2.72	2250.00	3750.00	36.12	267.17	30.00	84.00			
F-15A/BITBURG	0.88	0.72	2250.00	3750.00	223.53	174.53	240.00	106.00			
B-52G/FAIRCHILD	0.80	3.00	4000.00	2600.00	36.53	44.27	230.00	95.00			
FB-111A/PLATTSBURGH	7.19	8.09	2500.00	7500.00	204.09	83.88	170.00	136.00			
C-141A/TRAVIS	6.63	5.08	700.00	2750.00	1150.66	364.03	30.00	146.00			
KC-135A/FAIRCHILD	0.70	1.00	4000.00	3500.00	23.77	48.07	230.00	95.00			
T-38A/RANDOLPH	2.84	4.75	3000.00	3500.00	0.00	250.22	140.00	112.00			
A-10A/WHITLE BEACH	0.05	0.56	3500.00	1600.00	177.05	103.32	350.00	105.00			
A-10A/DAVIS MONTHAN	1.48	1.29	3000.00	1000.00	328.70	228.61	120.00	113.00			

TABLE C-3 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 51000 AIR DATA SYSTEM

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		A03	A07	A16	A19	908	013	023	E13	E19	E20
F-15A/LUKE	1.38	14.70	1.00	4.49	100.00	4000.00	3750.00	0.00	19.00	84.00	20.00
F-15A/BITBURG	0.94	11.87	1.69	6.80	70.00	5000.00	3750.00	1.00	19.00	106.00	32.00
B-52G/FAIRCHILD	3.47	5.06	1.08	1.11	60.00	1500.00	2600.00	4.00	10.00	95.00	26.00
F8-111A/PLATTSBURGH	7.13	29.26	1.00	2.87	76.44	2400.00	7500.00	12.00	25.00	136.00	27.00
C-141A/TRAVIS	7.88	34.80	1.00	2.70	59.00	1400.00	2750.00	0.33	7.00	146.00	74.00
KC-135A/FAIRCHILD	3.30	2.08	1.12	2.15	50.00	1750.00	3500.00	9.00	10.00	95.00	26.00
T-38A/RANDOLPH	1.34	4.17	1.00	7.90	75.00	4000.00	3500.00	0.00	47.00	112.00	21.00
A-10A/MYRTLE BEACH	0.05	14.73	2.00	5.56	95.00	4000.00	1600.00	0.00	51.00	105.00	14.00
A-10A/DAVIS-MONTHAN	0.43	3.43	1.90	4.50	88.00	9500.00	1000.00	0.00	51.00	113.00	23.00

TABLE C-4 GENERIC MODELS PARAMETER DATA  
SUBSYSTEM: 5100 HORIZONTAL SITUATION INDICATOR

COMPOSITE MAINTENANCE METRICS AND HEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		A07	A16	A18	Ø14	Ø33	E13	E18	E20		
F-15A/LINE	1.28	2.00	8.14	200.00	31.50	1.26	19.00	193.00	20.00		
F-15A/BITBURG	2.09	1.36	6.80	263.00	33.50	1.51	19.00	188.00	32.00		
B-52B/FAIRCHILD	5.27	1.00	1.11	16.67	240.00	8.25	10.00	198.00	26.00		
FB-111A/PLATTSBURGH	2.25	1.00	2.50	66.67	60.00	3.75	25.00	171.00	27.00		
C-141A/TRAVIS	5.50	1.00	2.70	371.00	165.00	3.76	7.00	123.00	74.00		
KC-135A/FAIRCHILD	1.56	1.49	1.58	0.00	127.50	4.95	10.00	148.00	26.00		
T-38A/RANDOLPH	1.69	1.00	7.90	20.00	9.50	1.38	47.00	222.00	21.00		
A-10A/WHITLE BEACH	0.00	2.50	5.60	5.00	30.00	1.90	51.00	230.00	14.00		
A-10A/DAVIS-MONTHAN	1.26	2.86	4.55	6.00	27.50	2.05	51.00	200.00	23.00		



TABLE C-5 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 52A00 AUTOPLOT

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		A03	A04	A08	A13	A19	P08	P23	E08	E18	
F-15A/LAKE	1.21	11.76	607.70	5.00	1.23	94.40	4000.00	0.00	0.00	193.00	
F-15A/91TBURG	0.88	11.00	432.00	4.00	1.47	83.85	6000.00	1.00	3.14	188.00	
B-52G/FAIRCHILD	7.53	30.55	1760.02	0.42	8.10	80.00	1500.00	4.00	9.46	198.00	
FB-111A/PLATTSBURGH	9.91	17.78	827.96	0.00	4.00	77.60	2400.00	12.00	9.90	171.00	
C-141A/DAVIS	7.59	2.27	370.42	4.00	3.70	59.00	1400.00	0.33	0.00	123.00	
KC-135A/FAIRCHILD	5.67	18.14	976.09	0.00	5.69	85.00	1750.00	9.00	9.46	148.00	
T-38A/RANDOLPH	0.46	2.35	44.61	4.00	1.11	83.00	4000.00	0.00	0.00	222.00	
A-10A/WHITLE BEACH	0.11	4.50	234.00	4.00	1.80	88.00	4000.00	0.00	0.35	230.00	
A-10A/DAVIS-MONTHAN	1.13	6.95	334.80	4.00	2.20	82.10	3500.00	0.00	0.00	200.00	

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TABLE C-6 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 63400 UNF COMMUNICATION SET

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS										
		A03	A04	A05	908	918	E13	E18	E19	E27	E30	
F-15A/LAKE	4.31	26.43	802.50	12.28	4000.00	0.00	19.00	193.00	84.00	0.00	2.41	
F-15A/BITBURG	5.03	26.00	750.90	9.62	6000.00	7.90	19.00	188.00	106.00	53.00	2.75	
B-52G/FAIRCHILD	6.93	39.55	1395.00	6.22	1500.00	0.00	10.00	198.00	95.00	110.00	3.05	
FB-111A/PLATTSBURGH	7.34	19.19	596.56	7.30	2400.00	1.22	25.00	171.00	136.00	138.00	2.69	
C-141A/TRAVIS	24.00	47.87	1526.90	8.74	1400.00	17.75	7.00	123.00	146.00	3.00	2.94	
KC-135A/FAIRCHILD	12.26	41.65	1474.15	6.52	1750.00	11.89	10.00	148.00	95.00	110.00	3.05	
T-38A/RANDOLPH	4.25	45.50	1583.90	8.00	4000.00	0.00	47.00	222.00	112.00	14.00	3.14	
A-10A/MYRTLE BEACH	0.00	9.25	241.60	5.00	4000.00	0.00	51.00	230.00	105.00	31.00	3.42	
A-10A/DAVIS-MONTHAN	0.00	9.25	241.63	5.00	3500.00	0.00	51.00	200.00	113.00	12.00	2.90	

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TABLE C-7 GENERIC MODELS PARAMETER DATA  
SUBSYSTEM: 65A00 IFF TRANSPONDER SET

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		A02	A09	P05	P09	P12	P30	E06	E09	E31	
F-15A/LUXE	0.90	3.00	5.00	150.00	350.00	135.00	2.30	0.00	50.00	228.95	
F-15A/BITBURG	2.22	3.00	0.00	150.00	375.00	117.50	2.30	62.00	202.00	2387.00	
B-52G/FAIRCHILD	2.47	3.00	23.21	156.00	450.00	135.00	0.83	77.00	140.00	1335.90	
FB-111A/PLATTSBURGH	3.03	7.-0	51.00	165.00	440.00	135.00	2.50	89.00	145.00	1482.19	
C-141A/TRAVIS	2.44	3.00	0.00	130.00	230.00	110.00	0.83	0.00	69.00	755.58	
KC-135A/FAIRCHILD	1.07	1.00	24.13	150.00	410.00	125.00	0.90	77.00	140.00	1335.90	
T-38A/DANDOLPH	2.22	1.33	0.00	155.00	323.75	142.50	1.30	0.00	130.00	1218.32	
A-10A/WYRTLE BEACH	0.11	2.00	89.00	130.00	240.00	120.00	0.41	3.00	121.00	1032.84	
A-10A/DAVIS-MONTHAN	0.00	2.00	100.00	120.00	230.00	105.00	0.41	0.00	77.00	317.19	

TABLE C-8 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 71A00 INERTIAL NAVIGATION SET

COMPOSITE MAINTENANCE METRICS AND HEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		AOE	Ø13	E21							
F-15A/LUKE	5.45	11.15	3750.00	4.00							
F-15A/BITBURG	4.34	18.65	3750.00	4.00							
B-52G/FAIRCHILD	-	-	-	-							
FB-111A/PLATTSBURGH	18.03	51.10	7500.00	7.00							
C-141A/TRAVIS	0.31	0.00	2750.00	0.00							
KC-135A/FAIRCHILD	-	-	-	-							
T-38A/RANDOLPH	0.00	1.00	3500.00	1.00							
A-10A/RYTLE BEACH	-	-	-	-							
A-10A/DAVIS-MONTHAN	-	-	-	-							

TABLE C-9 GENERIC MODELS PARAMETER DATA  
SUBSYSTEM: 71C00 INSTRUMENT LANDING SET

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		A02	A06	A15	Ø15	Ø25	Ø27	Ø32	E20		
F-15A/LUKE	0.52	3.00	35.00	1.00	361.67	267.17	26.72	2.00	20.00		
F-15A/BITBURG	-	-	-	-	-	-	-	-	-		
B-52G/FAIRCHILD	0.93	1.02	47.00	14.85	365.27	44.27	4.43	9.00	26.00		
FB-111A/PLATTSBURGH	1.00	3.00	79.00	0.00	314.47	83.88	60.72	2.00	27.00		
C-141A/TRAVIS	1.94	3.00	71.66	25.00	1369.84	364.03	305.47	7.00	74.00		
KC-135A/FAIRCHILD	0.26	1.00	47.00	2.80	237.74	48.07	4.81	6.00	26.00		
T-38A/RANDOLPH	0.76	2.00	46.00	5.00	345.71	250.22	0.00	2.00	21.00		
A-10A/RYTLE BEACH	-	-	-	-	-	-	-	-	-		
A-10A/DAVIS-NORTHAM	-	-	-	-	-	-	-	-	-		

TABLE C-10 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 71000 TACAN SET

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		A03	A18	Ø15	Ø32	E03	E09	E13	E20		
F-15A/LINE	1.93	29.00	10.00	361.67	2.00	30.00	50.00	19.00	20.00		
F-15A/MTTBURG	1.56	29.80	25.00	363.02	1.00	240.00	202.00	19.00	32.00		
B-52G/FAIRCHILD	3.60	31.00	0.00	365.27	9.00	230.00	140.00	10.00	26.00		
FB-111A/PLATTSBURGH	1.75	27.60	10.00	314.47	2.00	170.00	145.00	25.00	27.00		
C-141A/TRAVIS	11.38	51.00	1.00	1369.84	7.00	30.00	69.00	7.00	74.00		
KC-135A/FAIRCHILD	3.15	45.00	20.00	237.74	6.00	230.00	140.00	10.00	26.00		
T-38A/RANDOLPH	0.77	50.00	50.00	345.71	2.00	140.00	130.00	47.00	21.00		
A-10A/RYTLE BEACH	0.00	14.30	25.00	196.72	1.00	350.00	121.00	51.00	14.00		
A-10A/DAVIS-MONTHAN	0.30	9.11	25.00	469.57	1.00	120.00	77.00	51.00	23.00		

TABLE C-11 GENERIC MODELS PARAMETER DATA  
SUBSYSTEM: 71F00 ATTITUDE-HEADING REFERENCE SET  
COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS							
		A08	A12	905	E27				
F-15A/LUKE	1.79	5.00	2.00	150.00	0.00				
F-15A/BITBURG	1.31	4.00	2.60	150.00	53.00				
B-52G/FAIRCHILD	5.20	1.10	10.06	156.00	110.00				
FB-111A/PLATTSBURGH	5.91	0.00	7.00	165.00	138.00				
C-141A/TRAVIS	0.09	4.00	3.00	130.00	3.00				
MC-135A/FAIRCHILD	1.70	2.00	20.00	150.00	110.00				
T-38A/RANDOLPH	4.24	4.00	0.00	155.00	14.00				
A-10A/MYRTLE BEACH	0.00	3.00	40.00	130.00	31.00				
A-10A/DAVIS-MONTHAN	1.61	3.00	40.00	120.00	12.00				

TABLE C-12 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 74F00 RADAR SET

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND F = (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		A02	A12	A19	Ø10	Ø11	E13	E16	E18	E20	
F-15A/LUKE	13.24	2.00	9.00	89.00	2000.00	2250.00	19.00	360.00	193.00	20.00	
F-15A/BITBURG	11.13	3.00	76.00	84.00	2000.00	2250.00	19.00	225.00	188.00	32.00	
B-52B/FAIRCHILD	15.60	2.18	0.00	91.50	3300.00	4000.00	10.00	225.00	198.00	26.00	
FB-111A/PLATTSBURGH	15.53	1.49	54.80	82.00	1250.00	2500.00	25.00	360.00	171.00	27.00	
C-141A/TRAVIS	21.19	3.90	0.00	100.00	1950.00	700.00	7.00	225.00	123.00	74.00	
KC-135A/FAIRCHILD	8.37	2.14	3.98	87.35	2500.00	4000.00	10.00	225.00	148.00	26.00	
T-38A/RANDOLPH	-	-	-	-	-	-	-	-	-	-	
A-10A/RYTLE BEACH	0.00	7.00	75.00	90.00	408.75	3500.00	51.00	180.00	230.00	14.00	
A-10A/DAVIS-MONTHAN	0.61	7.00	75.00	90.00	1000.00	3000.00	51.00	135.00	222.00	23.00	

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TABLE C-13 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 11A01 RADOME

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP. OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS							
		F08	005	012	021	025	E02	E18	E20
F-15A/LUKE	1.21	6.00	150.00	116.00	45.72	267.17	1111.00	193.00	20.00
F-15A/BITBURG	1.16	3.00	150.00	118.00	150.47	174.53	1228.00	188.00	32.00
B-52G/FAIRCHILD	0.53	8.00	156.00	115.00	13.15	44.27	2472.00	198.00	26.00
FB-111A/PLATTSBURGH	2.16	5.00	165.00	123.00	136.09	83.88	245.00	171.00	27.00
C-141A/TRAVIS	4.38	9.00	130.00	97.00	665.81	364.03	62.00	123.00	74.00
KC-135A/FAIRCHILD	0.15	1.00	150.00	115.00	15.95	48.07	2472.00	148.00	26.00
T-38A/RANDOLPH	0.65	6.00	155.00	130.00	0.00	250.22	761.00	222.00	21.00
A-10A/MTLE BEACH	-	-	-	-	-	-	-	-	-
A-10A/DAVIS-DORTHAM	-	-	-	-	-	-	-	-	-

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TABLE C-14 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 11A02 WINDSHIELD

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F03	F07	Ø15	Ø21	Ø27	E18				
F-15A/LUXE	0.93	60.00	100.00	361.67	45.72	26.72	193.00				
F-15A/ØITBURG	0.16	60.00	100.00	363.02	150.47	148.34	188.00				
B-52G/FAIRCHILD	0.33	54.00	100.00	365.27	13.15	4.43	198.00				
FB-111A/PLATTSBURGH	4.03	64.00	95.-0	314.47	136.09	60.72	171.00				
C-141A/TRAVIS	7.31	385.00	95.00	1369.84	665.81	305.47	123.00				
KC-135A/FAIRCHILD	2.52	50.00	100.00	237.74	15.95	4.81	148.00				
T-38A/DANFOLPH	0.18	20.00	100.00	345.71	0.00	0.00	222.00				
A-10A/WYRTLE BEACH	0.00	150.00	100.00	196.72	95.34	93.00	230.00				
A-10A/DAVIS-MONTHAN	0.20	150.00	98.00	469.57	60.00	60.00	200.00				

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TABLE C-15 GENERIC MODELS PARAMETER DATA

SUMSYSTEM: 11K00 WINGS

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F04	002	008	010	012	014	017	021	E13	E20
F-15A/LAKE	13.97	608.00	3.67	4000.00	2000.00	116.00	31.50	36.12	45.72	19.00	20.00
F-15A/BITBURG	7.56	608.00	0.75	6000.00	3800.00	118.00	33.50	223.53	150.47	19.00	32.00
B-52G/FAIRCHILD	17.40	800.00	7.67	1500.00	2550.00	115.00	240.00	36.53	13.15	10.00	26.00
FB-111A/PLATTSBURGH	26.25	602.75	6.00	2400.00	1650.00	123.00	60.00	204.09	136.09	25.00	27.00
C-141A/TRAVIS	76.47	3073.00	11.83	1400.00	3020.00	97.00	165.00	1150.56	665.81	7.00	74.00
KC-135A/FAIRCHILD	34.81	1156.70	20.33	1750.00	2900.00	115.00	127.50	23.77	15.95	10.00	26.00
T-38A/DANDOLPH	4.82	170.00	11.75	4000.00	1590.00	130.00	9.50	0.00	0.00	47.00	21.00
A-10A/WHITLE BEACH	0.53	506.00	0.67	4000.00	408.75	115.00	30.00	177.05	95.34	51.00	14.00
A-10A/DAVIS-MONTHAN	3.96	506.00	2.42	3500.00	1000.00	111.00	27.50	328.70	60.00	51.00	23.00

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TABLE C-16 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 12800 COCKPIT FURNISHINGS (SEATS)

COMPOSITE MAINTENANCE METRICS AND HEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F11	008	012	017	021	025	027	E19	E20	
F-15A/LAKE	0.10	50.00	4000.00	116.00	36.12	45.72	267.17	26.72	84.00	20.00	
F-15A/BITBURG	0.06	50.00	6000.00	118.00	223.53	150.47	174.53	148.34	106.00	32.00	
B-52G/FAIRCHILD	0.08	200.00	1500.00	115.00	36.53	13.15	44.27	4.43	95.00	26.00	
FB-111A/PLATTSBURGH	1.27	300.00	2400.00	123.00	204.09	136.09	83.88	60.72	136.00	27.00	
C-141A/TRAVIS	3.64	400.00	1400.00	97.00	1150.66	665.81	364.03	305.47	146.00	74.00	
KC-135A/FAIRCHILD	0.19	33.30	1750.00	115.00	23.77	15.95	48.07	4.81	95.00	26.00	
T-38A/RANDOLPH	0.30	20.00	4000.00	130.00	0.00	0.00	250.22	0.00	112.00	21.00	
A-10A/WRIGHT BEACH	0.00	100.00	4000.00	115.00	177.05	95.34	103.32	93.00	105.00	14.00	
A-10A/DAVIS-MONTHAN	0.13	100.00	3500.00	111.00	328.70	60.00	228.61	60.00	113.00	23.00	

TABLE C-17 GENERIC MODELS PARAMETER DATA  
SUBSYSTEM: 13400 MAIN LANDING GEAR  
COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS											
		F03	F06	F13	F22	Ø10	Ø14	Ø15	Ø16	Ø19	Ø21	Ø32	E20
F-15A/LUKE	12.14	190.00	7.00	0.97	30.00	2000.00	31.50	361.67	325.54	456.69	45.72	2.0	20.00
F-15A/BITBURG	8.69	190.00	7.00	0.69	17.00	3800.00	33.50	363.02	31.59	177.00	150.47	1.0	32.00
B-52G/FAIRCHILD	22.80	5488.00	5.00	1.87	0.00	2550.00	240.00	365.27	328.74	131.47	13.15	9.0	26.00
FB-111A/PLATTSBURGH	10.47	506.00	5.00	2.03	160.00	1650.00	60.00	314.47	109.16	187.97	136.09	2.0	27.00
C-141A/TRAVIS	28.16	2200.00	5.00	5.21	160.00	3020.00	165.00	1369.84	205.44	792.59	665.81	7.0	74.00
KC-135A/FAIRCHILD	9.85	2960.00	1.00	1.30	0.00	2900.00	127.50	237.74	202.08	159.48	15.95	6.0	26.00
T-38A/RANDOLPH	18.51	58.00	5.00	3.19	80.00	1590.00	9.50	345.71	345.71	1046.72	0.00	2.0	21.00
A-10A/WHITLE BEACH	0.05	228.00	1.00	0.11	19.00	408.75	30.00	196.72	19.67	105.91	95.34	1.0	14.00
A-10A/DAVIS-MONTHAN	1.17	228.00	1.00	0.09	70.00	1000.00	27.50	469.57	140.87	228.61	60.00	1.0	23.00

TABLE C-18 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 13000 BRAKES

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F09	003	005	009	016	020	026	031	E03	E16
F-15A/LUKE	2.05	100.00	1.10	150.00	500.00	325.54	410.97	240.45	7000.00	30.00	360.00
F-15A/BITBURG	0.52	100.00	1.91	150.00	530.00	31.59	21.28	20.91	7000.00	240.00	225.00
B-52G/FAIRCHILD	1.57	90.00	1.10	156.00	450.00	328.74	118.32	39.94	5500.00	230.00	225.00
F8-111A/PLATTSBURGH	2.14	75.00	1.78	165.00	440.00	109.16	49.94	22.38	6000.00	170.00	360.00
C-141A/TRAVIS	1.36	95.00	1.86	130.00	430.00	205.44	118.91	54.59	4885.00	30.00	225.00
KC-135A/FAIRCHILD	0.80	90.00	1.20	150.00	410.00	202.08	135.56	40.86	5200.00	230.00	225.00
T-38A/RANDOLPH	1.95	80.00	1.00	155.00	420.00	345.71	1046.72	250.22	5500.00	140.00	180.00
A-10A/MYRTLE BEACH	0.00	100.00	1.90	130.00	320.00	19.67	10.59	10.32	4420.00	350.00	180.00
A-10A/DAVIS-MONTHAN	0.00	100.00	1.70	120.00	310.00	140.87	68.61	68.61	4420.00	120.00	135.00

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TABLE C-19 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 14C00 STABILATOR

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS						
		F03	F06	#21	#27	E20		
F-15A/LAKE	1.48	300.00	5.00	45.72	26.72	20.00		
F-15A/BITBURG	1.38	300.00	5.00	150.47	148.34	32.00		
B-52G/FAIRCHILD	0.20	2000.00	1.00	13.15	4.43	26.00		
FB-111A/PLATTSBURGH	4.88	1730.00	4.00	136.09	60.72	27.00		
C-141A/TRAVIS	11.75	3000.00	5.00	665.81	305.47	74.00		
KC-135A/FAIRCHILD	3.96	1600.00	5.00	15.95	4.81	26.00		
T-38A/RANDOLPH	1.61	800.00	5.00	0.00	0.00	21.00		
A-10A/MYRTLE BEACH	0.00	800.00	1.00	95.34	93.00	14.00		
A-10A/DAVIS-MONTHAN	0.13	800.00	1.00	60.00	60.00	23.00		

TABLE C-20 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 14000 RUDDER

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
 MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	(NONE) EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS							
		015	017	034	E03	E09	E18	E24	
F-15A/LUKE	0.93	361.67	36.12	0.10	30.00	50.00	193.00	58.00	
F-15A/BITBURG	0.50	363.02	223.53	0.09	240.00	202.00	188.00	44.00	
B-52G/FAIRCHILD	0.07	365.27	36.53	0.33	230.00	140.00	198.00	24.00	
FB-111A/PLATTSBURGH	0.38	314.47	204.09	0.13	170.00	145.00	171.00	1.00	
C-141A/TRAVIS	3.21	1369.84	1150.66	0.00	30.00	69.00	123.00	53.00	
KC-135A/FAIRCHILD	0.48	237.74	23.77	0.00	230.00	140.00	148.00	24.00	
T-38A/RANDOLPH	0.84	345.71	0.00	0.05	140.00	130.00	222.00	44.00	
A-10A/WHITLE BEACH	0.05	196.72	177.05	0.16	350.00	121.00	230.00	42.00	
A-10A/DAVIS-MONTHAN	0.83	469.57	328.70	0.04	120.00	77.00	200.00	54.00	

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TABLE C-2) GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 14H00 FLAPS

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP., OPS., & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F03	F04	F06	F08	F10	Ø15	Ø21	Ø27	E18	E19
F-15A/LUKE	0.10	104.00	69.70	1.00	5.00	4.00	361.67	45.72	26.72	193.00	84.00
F-15A/BITTURG	0.69	104.00	69.70	1.00	9.00	4.00	363.02	150.47	148.34	188.00	106.00
B-52G/FAIRCHILD	3.67	800.00	523.30	1.00	9.00	4.00	365.27	13.15	4.43	198.00	95.00
FB-111A/PLATTSBURGH	22.03	800.00	126.70	10.00	9.00	2.00	314.47	136.09	60.72	171.00	136.00
C-141A/TRAVIS	28.56	3364.00	528.70	5.00	14.00	1.00	1369.84	665.81	305.47	123.00	146.00
KC-135A/FAIRCHILD	7.26	550.00	120.00	1.00	4.00	4.00	237.74	15.95	4.81	148.00	95.00
T-38A/RANDOLPH	1.14	70.00	20.50	5.00	1.00	-	345.71	0.00	0.00	222.00	112.00
A-10A/MYRTLE BEACH	0.05	200.00	86.00	5.00	8.00	-	196.72	95.34	93.00	230.00	105.00
A-10A/DAVIS-MONTHAN	0.78	200.00	86.00	5.00	8.00	-	469.57	60.00	60.00	200.00	113.00

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TABLE C-22 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 41A00 ENVIRONMENTAL CONTROL (WATER SEPARATOR)

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP. (None), & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F08	E19	E24							
F-15A/LUKE	0.03	5.00	84.00	58.00							
F-15A/BITBURG	0.03	6.00	106.00	44.00							
B-52G/FAIRCHILD	0.27	1.00	95.00	24.00							
F8-111A/PLATTSBURGH	2.06	13.00	136.00	1.00							
C-141A/TRAVIS	0.81	3.00	146.00	53.00							
KC-135A/FAIRCHILD	0.00	1.00	95.00	24.00							
T-38A/RANDOLPH	0.84	1.00	112.00	44.00							
A-10A/WHITLE BEACH	0.00	4.00	105.00	42.00							
A-10A/DAVIS-MONTHAN	0.04	4.00	113.00	54.00							

TABLE C-23 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 42A00 AIRCRAFT POWER (GENERATOR ASSY)

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS							
		F13	007	032	E13				
F-15A/LUKE	0.17	0.03	83.02	2.00	19.00				
F-15A/BITBURG	0.23	0.13	82.14	1.00	19.00				
B-52G/FAIRCHILD	1.13	0.80	92.00	9.00	10.00				
FB-111A/PLATTSBURGH	0.38	0.00	79.00	2.00	25.00				
C-141A/TRAVIS	0.54	0.41	75.83	7.00	7.00				
KC-135A/FAIRCHILD	0.53	0.48	82.00	6.00	10.00				
T-38A/RANDOLPH	0.78	0.17	100.00	2.00	47.00				
A-10A/MYRTLE BEACH	0.00	0.00	82.00	1.00	51.00				
A-10A/DAVIS-MONTHAN	0.04	0.00	70.00	1.00	51.00				

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TABLE C-24 GENERIC MODELS PARAMETER DATA  
SUBSYSTEM: 44A01 NAVIGATION/ANTI-COLLISION LIGHTS

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP., OPS., & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F03	F06	Ø11	Ø21	Ø25	Ø27	E02	E03	E18	E30
F-15A/LUKE	2.72	10.00	1.00	2250.00	45.72	267.17	26.72	1111.00	30.00	193.00	2.41
F-15A/BITBURG	1.47	10.00	3.00	2250.00	150.47	174.53	148.34	1221.00	240.00	188.00	2.75
B-52G/FAIRCHILD	0.33	2.50	3.00	4000.00	13.15	44.27	4.43	2472.00	230.00	198.00	3.05
FB-111A/PLATTSBURGH	3.09	10.00	1.00	2500.00	136.09	83.88	60.72	245.00	170.00	171.00	2.69
C-141A/TRAVIS	4.75	15.00	1.00	700.00	665.81	364.03	305.47	62.00	30.00	123.00	2.94
KC-135A/FAIRCHILD	0.04	4.00	3.00	4000.00	15.95	48.07	4.81	2472.00	230.00	148.00	3.05
T-38A/RANDOLPH	1.16	2.00	1.00	3000.00	0.00	250.22	0.00	761.00	140.00	222.00	3.14
A-10A/MYRTLE BEACH	0.00	2.00	4.00	3500.00	95.34	103.32	93.00	35.00	350.00	230.00	3.42
A-10A/DAVIS-NORTHAN	0.39	2.00	4.00	3000.00	60.00	228.61	60.00	2705.00	120.00	200.00	2.91

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TABLE C-25 GENERIC MODELS PARAMETER DATA  
SUBSYSTEM: 44A02 LANDING/TAXI LIGHTS  
COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F03	F13	Ø15	Ø21	Ø27	E18	E19			
F-15A/LAKE	0.38	6.00	0.07	361.67	45.72	26.72	193.00	84.00			
F-15A/BITBURG	0.50	6.00	0.00	363.02	150.47	148.34	188.00	106.00			
B-52G/FAIRCHILD	2.13	15.00	0.00	365.27	13.15	4.43	198.00	95.00			
FB-111A/PLATTSBURGH	6.72	6.00	0.19	314.47	136.09	60.72	171.00	136.00			
C-141A/DAVIS	9.84	34.00	0.13	1369.84	665.81	305.47	123.00	146.00			
KC-135A/FAIRCHILD	0.96	9.50	0.00	237.74	15.95	4.81	148.00	95.00			
T-38A/DANDOLPH	0.73	12.00	0.00	345.71	0.00	0.00	222.00	112.00			
A-10A/MYRTLE BEACH	0.00	8.00	0.00	196.72	95.34	93.00	230.00	105.00			
A-10A/DAVIS-MONTHAN	0.21	8.00	0.00	469.57	60.00	60.00	200.00	113.00			

TABLE C-26 GENERIC MODELS PARAMETER DATA  
SUBSYSTEM: 45A00 HYDRAULIC POWER (PUMPS)

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F04	F11	Ø05	Ø06	Ø08	Ø14	Ø32	Ø33	E06	E08
F-15A/LUKE	0.21	462.00	6.50	150.00	3500.00	4000.00	31.50	2.00	1.26	0.00	0.00
F-15A/BITBURG	0.02	462.00	20.00	150.00	2500.00	6000.00	33.50	1.00	1.51	62.00	3.14
B-52G/FAIRCHILD	1.57	1432.00	10.00	156.00	8750.00	1500.00	240.00	9.00	8.25	77.00	9.46
FB-111A/PLATTSBURGH	1.29	480.00	10.00	165.00	3800.00	2400.00	60.00	2.00	3.75	89.00	9.90
C-141A/IRAVIS	0.20	416.00	20.00	130.00	3800.00	1400.00	165.00	7.00	3.76	0.00	0.00
KC-135A/FAIRCHILD	1.22	942.00	10.00	150.00	9500.00	1750.00	127.50	6.00	4.95	77.00	9.46
T-38A/RANDOLPH	0.23	236.00	10.00	155.00	2700.00	4000.00	9.50	2.00	1.38	0.00	0.00
A-10A/MTLE BEACH	0.00	900.00	20.00	130.00	1700.00	4000.00	30.00	1.00	1.90	3.00	0.35
A-10A/DAVIS-MONTHAN	0.17	900.00	20.00	120.00	3750.00	3500.00	27.50	1.00	2.05	0.00	0.00

TABLE C-27 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 46A00 INTERNAL FUEL TANKS

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP. OPS. & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS										
		F16	Ø10	Ø11	Ø15	Ø17	Ø21	Ø27	E16	E18	E19	E23
F-15A/LUKE	1.55	7.00	2000.00	2250.00	361.67	36.12	45.72	26.72	360.00	193.00	84.00	69.00
F-15A/BITBURG	2.44	7.00	3000.00	2250.00	363.02	223.53	150.47	148.34	225.00	188.00	106.00	48.00
B-52G/FAIRCHILD	1.66	7.00	2550.00	4000.00	365.27	36.53	13.15	4.43	225.00	198.00	95.00	47.00
FB-111A/PLATTSBURGH	5.46	7.00	1650.00	2500.00	314.47	204.09	136.09	60.72	360.00	171.00	136.00	45.00
C-141A/TRAVIS	5.03	7.00	3020.00	700.00	1369.84	1150.66	665.81	305.47	225.00	123.00	146.00	61.00
KC-135A/FAIRCHILD	2.44	3.00	2900.00	4000.00	237.84	23.77	15.95	4.81	225.00	148.00	95.00	47.00
T-38A/RANDOLPH	0.07	4.00	1590.00	3000.00	345.71	0.00	0.00	0.00	180.00	222.00	112.00	69.00
A-10A/WHITILE BEACH	0.05	4.00	408.75	3500.00	196.72	177.05	95.34	93.00	180.00	230.00	105.00	66.00
A-10A/DAVIS-MONTHAN	0.17	4.00	1000.00	3000.00	469.57	328.70	60.00	60.00	135.00	200.00	113.00	69.00

TABLE C-28 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 47A01 OXYGEN REGULATOR

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP. OPS. & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS									
		F03	Ø30	E06	E07	E16	E21	E23	E24	E27	
F-15A/LUKE	0.34	2.50	2.50	0.00	0.00	360.00	4.00	69.00	58.00	0.00	
F-15A/BITBURG	0.78	2.50	2.50	62.00	15.70	225.00	4.00	48.00	44.00	53.00	
B-52G/FAIRCHILD	0.34	2.00	0.84	77.00	47.30	225.00	2.00	47.00	24.00	110.00	
FB-111A/PLATTSBURGH	1.70	1.00	2.20	89.00	59.90	360.00	7.00	45.00	1.00	138.00	
C-141A/TRAVIS	0.33	3.00	0.89	0.00	0.00	225.00	0.00	61.00	53.00	3.00	
KC-135A/FAIRCHILD	0.22	3.00	0.90	77.00	47.30	225.00	2.00	47.00	24.00	110.00	
T-38A/RANDOLPH	0.45	1.50	1.63	0.00	0.00	180.00	1.00	69.00	44.00	14.00	
A-10A/WHITLE BEACH	0.06	2.00	0.75	3.00	0.70	180.00	2.00	66.00	42.00	31.00	
A-10A/DAVIS-DORTHAM	0.39	2.00	0.75	0.00	0.00	135.00	3.00	69.00	54.00	12.00	

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TABLE C-29 GENERIC MODELS PARAMETER DATA

SUBSYSTEM: 47A02 LOX CONVERTER

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND - F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP, OPS, & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS						
		F08	#05	#06	#33	E08		
F-15A/LUKE	0.14	5.00	150.00	3500.00	1.26	0.00		
F-15A/BITBURG	0.31	5.00	150.00	2500.00	1.51	3.14		
B-52G/FAIRCHILD	1.78	15.00	156.00	8750.00	8.25	9.46		
FB-111A/PLATTSBURGH	0.97	5.00	165.00	3800.00	3.75	9.90		
C-141A/TRAVIS	0.47	8.00	130.00	3800.00	3.76	0.00		
KC-135A/FAIRCHILD	0.44	4.00	150.00	9500.00	4.95	9.46		
T-38A/RANDOLPH	0.54	6.00	155.00	2700.00	1.38	0.00		
A-10A/WHITLE BEACH	0.05	5.00	130.00	1700.00	1.90	0.35		
A-10A/DAVIS-MONTHAN	0.09	6.00	120.00	3750.00	2.05	0.00		

TABLE C-30 GENERIC MODELS PARAMETER DATA  
SUBSYSTEM: 49A00 ENGINE FIRE DETECTION

COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS MODEL DEVELOPMENT INPUT DATA  
MAINT. ACTION DEMAND = F (EQUIPMENT, OPERATIONAL, & ENVIRONMENTAL CHARACTERISTIC PARAMETERS)

DATA CASE: AIRCRAFT/BASE	MAINT. ACTION DEMAND	EQUIP. (Type) & ENVIRON CHARACTERISTICS PARAMETER I.D. NUMBERS						
		F04	F08	E16	E19	E24		
F-15A/LAKE	0.07	2.00	5.00	360.00	84.00	58.00		
F-15A/BITBURG	0.08	2.00	5.00	225.00	106.00	44.00		
B-52G/FAIRCHILD	0.11	-	4.00	225.00	95.00	24.00		
FB-111A/PLATTSBURGH	0.30	-	14.00	360.00	136.00	1.00		
C-141A/DAVIS	0.17	0.22	16.00	225.00	146.00	53.00		
KC-135A/FAIRCHILD	0.06	2.20	9.00	225.00	95.00	24.00		
T-38A/DANDOLPH	0.07	-	9.00	180.00	112.00	44.00		
A-10A/WRIGHT BEACH	0.04	3.75	10.00	180.00	105.00	42.00		
A-10A/DAVIS-MONTHAN	0.03	3.75	10.00	135.00	113.00	54.00		

APPENDIX D

ANNOTATED LISTING OF  
COMPOSITE MAINTENANCE METRICS AND WEIGHTINGS  
REGRESSION EQUATIONS

The tables contained in this appendix display the composite maintenance metrics and weightings multiple regression equations developed from the data sets of Appendix C. The Appendix C data sets are made up of the significant equipment, operational, and environmental parameters which survived the step-wise regression process used to develop each aircraft subsystem's generic models as contained in Appendix B.

Step-wise regression was applied to each of the Appendix C data sets to develop an optimum composite model for each of the 30 equipments included in the study. Each resulting equation is annotated with statistics indicating how well it fits the input data and can be expected to estimate Maintenance Action Demand within the relevant range of the data. These statistics are:

- The Adjusted Multiple Correlation Coefficient.
- The Adjusted Standard Error of the Estimate.
- The Computed "T" Statistic for each included independent variable.

General remarks about each regression model are also included where appropriate. An analysis of each model's step-wise regression process was used as the basis for interpreting the relationships of the various independent variables included in each final equation. Major and minor included variables were determined from analysis of the evolving model statistics and variable interactions at each step of the multiple regression model development process. A possible "real world" explanation for the indicated influence of each major variable on maintenance action demand was also included as an aid to future researchers into the underlying causes for aircraft maintenance demand.

COMPOSITE  
MAINTENANCE METRICS MODELS  
BASED ON  
EQUIP, OPNS, & ENVIRON CHARACTERISTIC PARAMETERS  
ESTIMATORS OF MAINTENANCE ACTION DEMAND FOR--

<u>SYSTEM</u>	<u>NOMENCLATURE</u>	<u>TABLE</u>
23000	Propulsion. . . . .	D-1
51A00	Flight Indicators . . . . .	D-2
51E00	Air Data System . . . . .	D-3
51N00	Horizontal Situation Indicator. . . . .	D-4
52A00	Autopilot . . . . .	D-5
63A00	UHF Communication Set . . . . .	D-6
65A00	IFF Transponder Set . . . . .	D-7
71A00	Inertial Navigation Set . . . . .	D-8
71C00	Instrument Landing Set. . . . .	D-9
71D00	TACAN Set . . . . .	D-10
71F00	Attitude-Heading Reference Set. . . . .	D-11
74F00	Radar Set . . . . .	D-12
11A01	Radome. . . . .	D-13
11A02	Windshield. . . . .	D-14
11K00	Wings . . . . .	D-15
12B00	Cockpit Furnishings (seats) . . . . .	D-16
13A00	Main Landing Gear . . . . .	D-17
13D00	Brakes. . . . .	D-18
14C00	Stabilator. . . . .	D-19
14D00	Rudder. . . . .	D-20
14H00	Flaps . . . . .	D-21
41A00	Environmental Control (Water Separator) . . . . .	D-22
42A00	Aircraft Power (Generators) . . . . .	D-23
44A01	Navigation/Anti-Collision Lights. . . . .	D-24
44A02	Landing/Taxi Lights . . . . .	D-25
45A00	Hydraulic Power (Pumps) . . . . .	D-26
46A00	Internal Fuel (Tanks) . . . . .	D-27
47A01	Oxygen Regulator. . . . .	D-28
47A02	LOX Converter . . . . .	D-29
49A00	Engine Overheat/Fire Detection. . . . .	D-30

EXPLANATORY NOTE  
ON NEGATIVE CONSTANT COMPONENT OF MODEL

When a negative constant component appears in the model regression equation for a particular equipment item, it may be interpreted as specifying threshold combinations of predictor variable values (all variable terms of equation sum to positive equivalent of constant term) at which Maintenance Action Demand becomes negligible for all combinations of predictor values lower than the threshold value.

TABLE D-1

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-23 Propulsion System

## Regression Equation:

$$EMAD = -57.67505 + 0.24421(P02) + 0.05526(P04) + 0.02073(010) + 0.20306(027) - \dots \\ - 0.79794(032) + 7.50856(033)$$

Where -- P02, Total Number of Installed Engines per Acft.	Computed T = +42.849
P04, Weight per Engine in Lbs (10) <sup>-1</sup>	Computed T = +29.738
010, Average Cruise Altitude in Feet (10) <sup>-1</sup>	Computed T = +37.118
027, Operational Sorties per Acft per Year	Computed T = +33.733
032, Aircraft Crew Size in No. Aircrew per Acft	Computed T = -1.915
033, Average Sortie Length in Hours	Computed T = +21.378

Adjusted Multiple Correlation Coefficient == 1.000  
Adjusted Standard Error = 0.810

## Remarks:

Model based on 8 valid data points per input variable.

Developed from data set Table C-1.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

P02: Minor regression variable; 1.7% of MAD variance. Exerts implicit influence through reinforcement of 027 rather than direct independent influence on MAD.

P04: Minor variable; 2.3% of MAD variance. Acts through the major regression variables to tune model to best data fit. Strongly reinforces 010, 033, and 027.

010: The strongest independent variable; 85.4% of MAD variance. Logical strong positive correlation between cruise altitude and propulsion system maintenance demand.

027: Major variable; 2.2% of MAD variance. Logical positive correlation between operational sortie rate and propulsion maintenance demand.

032: Minor variable; 0% of MAD variance. Possible surrogate for aircraft complexity which fine-tunes the model by acting as a reinforcing influence on P02 and P04, while moderating the effect of 010 and 027.

033: Major variable; 8.4% of MAD variance. Logical positive correlation between sortie length and propulsion maintenance demand.

TABLE D-2

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_e EQ_e) + \dots + (B_{en} EQ_{en}) + (B_{o1} OP_{o1}) + \dots + (B_{on} OP_{on}) + (B_{n1} EN_{n1}) + \dots + (B_{nn} EN_{nn})$$

Equipment Item: WUC-51A Flight Indicators

## Regression Equation:

$$EMAD = -4.65791 + 0.39813(A03) + 0.00036(013) + 0.00159(017) - 0.00361(E03) + 0.04497(E19)$$

Where -- A03, Equipment Weight in Pounds

013, Minimum Landing Distance in Feet

017, Operations Flying Hours per Aircraft

E03, Runway Direction in Compass Degrees

E19, Days per Year Maximum Cross Winds 20-29 MPH

Computed T = +3.492

Computed T = +3.506

Computed T = +1.966

Computed T = -2.138

Computed T = +2.651

Adjusted Multiple Correlation Coefficient = 0.995

Adjusted Standard Error = 0.441

## Remarks:

Model based on 9 valid data points per input variable.

Developed from data set Table C-2.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

A03: The strongest regression variable; 81.4% of MAD variance. Strong positive correlation between Flight Indicators maintenance demand and item weight.

013: Minor variable; 2.1% of MAD variance. Fine-tunes model by moderating effect of A03 and reinforcing effect of 017.

017: Major variable; 14.7% of MAD variance. Logical positive correlation between Flight Indicator maintenance demand and operations flying hours.

E03: Minor variable; 0.8% of MAD variance. Fine-tunes model by moderating 017 and reinforcing 013 and E19.

E19: Minor variable; 0.5% of MAD variance. Fine-tunes model by moderating effects of A03 and 017.

TABLE D-3

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-51E Air Data System

## Regression Equation:

$$EMAD = -1.97450 + 0.02327(A03) - 0.03479(A16) - 0.00080(008) + 0.00052(013) - 0.07055(023) - \dots - 0.04622(E13) + 0.06281(E19)$$

Where --	A03, Equipment Weight in Pounds	Computed T = +13.191
	A16, On-Off Cycles per 10 Flying Hours	Computed T = - 2.644
	008, Average Climb Rate in Feet per Minute	Computed T = -60.049
	013, Minimum Landing Distance in Feet	Computed T = +38.684
	023, Average Number of Aircraft on Alert per Mo.	Computed T = -12.152
	E13, Number of Thunder Days per Year	Computed T = -63.409
	E19, Days per Year with Max. Crosswinds 20-29 MPH	Computed T = +70.998

Adjusted Multiple Correlation Coefficient = 1.000  
Adjusted Standard Error = 0.047

## Remarks:

Model based on 9 valid data points per input variable.

Developed from data set Table C-3.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

- A03: The strongest regression variable; 55.6% of MAD variance. Strong positive correlation between Air Data System maintenance demand and item weight.
- A16: Minor variable; 0% of MAD variance. Fine-tunes model by reinforcing effects of 023.
- 008: Major variable; 30.3% of MAD variance. The strong negative correlation between MAD and climb rate may indicate that climb rate is acting as a surrogate for underlying Air Data System complexity factors.
- 013: Major variable; 6.9% of MAD variance. The positive correlation between MAD and landing distance is logical if larger aircraft are assumed to have more complex air data systems.
- 023: Minor variable; 0.2% of MAD variance. Fine-tunes model by strongly reinforcing effects of E13.
- E13: Minor variable; 4.8% of MAD variance. Improves model's data fit by strongly reinforcing effects of 013 and E19.
- E19: Minor variable; 2.3% of MAD variance. Improves model's data fit through strong moderating influence on the effects of A03.



TABLE D-4

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-51N Horizontal Situation Indicator

## Regression Equation:

$$EMAD = -14.29185 + 0.75146(A07) + 1.00320(A16) - 0.04932(014) + 3.02032(033) + 0.17702(E20)$$

Where -- A07, Cooling Method (Qualitative Scale)	Computed T = + 4.923
A16, On-Off Cycles per 10 Flying Hours	Computed T = +11.271
014, Avg. Landing Weight in Lbs.	Computed T = - 7.416
033, Avg. Sortie Length in Hours	Computed T = +10.299
E20, No. of Days per Year Max. Crosswinds 30-39 MPH	Computed T = +12.779

Adjusted Multiple Correlation Coefficient = 0.998  
Adjusted Standard Error = 0.212

## Remarks:

Model based on 9 valid data points per input variable.  
Developed from data set Table C-4.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

- A07: Minor regression variable; 3.6% of MAD variance. Improves model's data fit by moderating effect of 014.
- A16: Minor variable; 1.8% of MAD variance. Improves model's data fit by moderating effect of 014.
- 014: The strongest independent variable; 70.4% of MAD variance. Negative correlation of MAD and landing weight may indicate more favorable environment aboard the larger aircraft.
- 033: Major variable; 8.6% of MAD variance. Logical positive correlation of MAD and sortie length improves data fit of model by moderating 014 and reinforcing A07, A16, and E20.
- E20: Major variable; 15.4% of MAD variance. Positive correlation of MAD and strong cross-winds may indicate difficulty of successful maintenance under windy conditions.

TABLE D-5

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-52A Autopilot

## Regression Equation:

$$EMAD = +21.94426 - 0.48130(A03) + 0.01587(A04) - 1.49585(A13) - 0.25773(A19) - 0.00041(008) + \dots + 0.63684(023) + 0.01591(E18)$$

Where -- A03, Equipment Weight in Lbs.

A04, Equipment Volume in Cu. In.

A13, Avg. Operating Time per Sortie in Hours

A19, Failure/Abort Ratio in Percent

008, Avg. Climb Rate in Feet per Minute

023, Avg. Number of Acft. on Alert per Month

E18, Days per Year Max. Crosswinds 10 - 19 MPH

Computed T = - 5.148

Computed T = + 9.120

Computed T = -16.681

Computed T = -28.264

Computed T = - 3.248

Computed T = +15.831

Computed T = + 5.804

Adjusted Multiple Correlation Coefficient = 1.000

Adjusted Standard Error = 0.265

## Remarks:

Model based on 9 valid data points per input variable.

Developed from data set Table C-5.

## Possible Interpretation of Relationships:

Intercept: May be thought of as an irreducible maintenance demand not explained by the constituent model variables.

A03: Minor regression variable; 0.4% of MAD variance. Fine-tunes model by strongly reinforcing A13, A19, and E18.

A04: Major variable; 4.7% of MAD variance. Equipment volume may be a complexity surrogate with a logical positive correlation to MAD.

A13: Major variable; 3.8% of MAD variance. Logical positive correlation with MAD. Reinforces effects of 008.

A19: Major variable; 10% of MAD variance. Negative correlation may indicate criticality and therefore design reliability of system.

008: The strongest independent variable; 64.4% of MAD variance. Strong negative correlation between MAD and climb rate reinforced by A13 appears to minimize operating time per sortie and hence maintenance requirements as climb rate increases.

023: Major variable; 16.6% of MAD variance. Logical positive correlation between alert time (therefore operating time) and MAD.

E18: Minor variable; 0.2% of MAD variance. Improves model data fit by moderating A19.

TABLE D-6

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-63A UHF Communication Set

## Regression Equation:

$$EMAD = -101.61953 - 0.20829(A03) + 1.01056(A05) - 0.01558(008) + 6.73198(018) + 1.41466(E18) + \dots + 0.91935(E19) - 60.98640(E30)$$

Where -- A03, Equipment Weight in Lbs.

A05, Number of SRU's per Unit UHF Set

008, Avg. Climb Rate in Feet per Minute

018, Misc. Flying Hours per Acft. per Year

E18, Days per Year Max. Crosswinds 10-19 MPH

E19, Days per Year Max. Crosswinds 20-29 MPH

E30, Average Visual Obstruction Type

Computed T = -5.946

Computed T = +8.367

Computed T = -8.431

Computed T = +7.887

Computed T = +7.157

Computed T = +9.435

Computed T = -6.634

Adjusted Multiple Correlation Coefficient = 1.000

Adjusted Standard Error = 0.535

## Remarks:

Model based on 9 valid data points per input variable.

Developed from data set Table C-6.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

A03: Major regression variable; 9.9% of MAD variance. Negative correlation between MAD and equipment weight may indicate greater complexity in miniaturized communication sets.

A05: Minor variable; 2.2% of MAD variance. Improves model data fit by reinforcing effects of E18 and E30.

008: Minor variable; 1.5% of MAD variance. Improves model data fit by reinforcing effects of A05 and E19.

018: Minor variable; 1.0% of MAD variance. Strong linking variable for E18. Good weather, more flying hours.

E18: The strongest independent variable; 81.1% of MAD variance. Relatively quiet weather days seem to generate more flying hours hence more maintenance demand. Indicated by strong link between E18 and 018.

E19: Major variable; 3.4% of MAD variance. Positive correlation between MAD and windy days may indicate difficulty of successful maintenance under windy conditions.

E30: Minor; 0.8% of MAD variance. Improves model data fit by moderating effects of A03.

TABLE D-7

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots B_{nn}EN_{nn})$$

Equipment Item: WUC-65A IFF Set

## Regression Equation:

$$EMAD = +0.88985 + 0.60248(A02) - 0.02592(A09) - 0.81308(O30) + 0.00777(E09)$$

Where -- A02, Equipment Location on Acft. (Qualitative Scale) Computed T = +5.198  
 A09, Number of Test Points on Unit (Org. Level) Computed T = -5.648  
 O30, Maximum Acft. Speed in Knots Computed T = -2.900  
 E09, Number of Rain Days per Year Computed T = +2.568

Adjusted Multiple Correlation Coefficient = 0.950  
 Adjusted Standard Error = 0.487

## Remarks:

Model based on 9 valid data points per input variable.

Developed from data set Table C-7.

## Possible Interpretation of Relationships:

## Intercept:

- A02: Major regression variable; 35.4% of MAD variance. Logical positive correlation between MAD and severity of on aircraft environment for the IFF equipment.
- A09: Major variable; 39.6% of MAD variance. Logical negative correlation between MAD and availability of flight line test points on equipment.
- O30: Minor variable; 9.0% of MAD variance. Improves data fit of model by reinforcing effects of A02.
- E09: Major variable; 10.0% of MAD variance. Logical positive correlation between MAD and rain environment.

TABLE D-8

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-71A Inertial Navigation Set

Regression Equation:

$$EMAD = -0.03444 + 0.34557(A05)$$

Where -- A05, Number of SRU's per Unit Ins

Computed T = +9.230

Adjusted Multiple Correlation Coefficient = 0.983  
Adjusted Standard Error = 1.563

Remarks:

Model based on 5 valid data points per input variable.

Developed from data set Table C-8.

Possible Interpretation of Relationships:

Intercept: See explanatory note.

A05: Single significant regression variable is measure of equipment complexity.  
Logical positive correlation with MAD.

TABLE D-9

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-71C Instrument Landing Set

## Regression Equation:

$$EMAD = -1.12788 + 0.02543(A06) + 0.00395(015) - 0.00744(027) - 0.02547(E20)$$

Where -- A06, Operating Temp. Environment in Degrees F

015, Total Flying Hours per Acft. per Year

027, Operations Sorties per Acft. per Year

E20, Days per Year Max. Crosswinds 30-39 MPH

Computed T = +2.901

Computed T = +2.784

Computed T = -1.511

Computed T = -1.146

Adjusted Multiple Correlation Coefficient = 0.977

Adjusted Standard Error = 0.274

## Remarks:

Model based on 6 valid data points per input variable.

Developed from data set Table C-9.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

A06: Minor regression variable; 8.0% of MAD variance. Logical positive correlation between MAD and operating temperature moderates effect of 015.

015: Major variable; 82.4% of MAD variance. Logical positive correlation between MAD and total flying hours.

027: Minor variable; 5.5% of MAD variance. Improves model data fit by reinforcing the effect of A06.

E20: Minor variable; 2.4% of MAD variance. Improves model data fit by reinforcing the effect of A06 and 015 while moderating 027.

TABLE D-10

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-71D Tacan Set

## Regression Equation:

$$EMAD = -1.84254 + 0.06059(A03) - 0.04356(A18) + 0.09897(032) + 0.00577(E03) - 0.01708(E09) + \dots + 0.14166(E20)$$

Where -- A03, Equipment Weight in Lbs.

A18, Ground/Flight Operating Ratio in Percent

032, Acft. Crew Size in No. of People per Acft.

E03, Runway Direction in Compass Degrees

E09, Number of Rain Days per Year

E20, Days per Year Max. Crosswinds 30-39 MPH

Computed T = + 6.731

Computed T = - 5.542

Computed T = + 2.317

Computed T = + 4.749

Computed T = - 7.530

Computed T = +25.048

Adjusted Multiple Correlation Coefficient = 0.999

Adjusted Standard Error = 0.298

## Remarks:

Model based on 9 valid data points per input variable.

Developed from data set Table C-10.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

A03: Minor regression variable; 0.3% of MAD variance. Fine-tunes model by reinforcing E09 and moderating effect of 032.

A18: Minor variable; 0.6% of MAD variance. Fine-tunes model by reinforcing A03.

032: Major variable; 6.4% of MAD variance. This variable is probably a surrogate for aircraft complexity which would logically be positively correlated with MAD.

E03: Minor variable; 0.8% of MAD variance. Improves model's data fit by reinforcing the effects of A18, 032, and E20.

E09: Minor variable; 1.4% of MAD variance. Improves model's data fit by reinforcing effect of 032.

E20: The strongest independent variable; 90.5% of MAD variance. Strong positive correlation between MAD and windy days indicates logical effects of environmental severity.

TABLE D-11

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-71F Attitude-Heading Ref. Set

Regression Equation:

$$EMAD = -11.43471 - 1.96712(A08) + 0.15487(005) - 0.05553(E27)$$

Where -- A08, Protection Devices (Qualitative Scale)  
 005, Avg. Take-Off Speed in Knots  
 E27, Days per Year Min. Temp. was Below 32°F

Computed T = - 3.783  
 Computed T = + 4.924  
 Computed T = - 2.973

Adjusted Multiple Correlation Coefficient = 0.933  
 Adjusted Standard Error = 0.985

Remarks:

Model based on 9 valid data points per input variable.  
 Developed from data set Table C-11.

Possible Interpretation of Relationships:

Intercept: See explanatory note.

- A08: Minor regression variable; 13.8% of MAD variance. The higher the quality of equipment protective devices, the fewer maintenance action demands. Moderates effects of 005.
- 005: Major variable; 59.2% of MAD variance. Take-off speed may be considered a measure of the severity of the equipment environment and is logically positively correlated with MAD.
- E27: Major variable; 17.2% of MAD variance. This variable links with and strongly reinforces the effects of A08 and 005 within the regression model.



TABLE D-12

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: WUC-74F Radar Set

## Regression Equation:

$$EMAD = -163.52568 - 7.69499(A02) + 0.20917(A12) + 2.01732(A19) + 0.00125(011) + \dots + 0.27093(E13) + 0.13809(E20)$$

Where -- A02, Equip. Location on Acft. (Scaled Qualitatively)	Computed T = -317.887
A12, AGE Unreliability in Percent	Computed T = +187.826
A19, Failure/Abort Ratio in Percent	Computed T = +238.638
011, Avg. Descent Rate in Feet per Minute	Computed T = + 68.873
E13, Number of Thunder Days per Year	Computed T = +123.813
E20, Days per Year Max. Crosswinds 30-39 MPH	Computed T = + 92.318

Adjusted Multiple Correlation Coefficient = 1.000

Adjusted Standard Error = 0.041

## Remarks:

Model based on 8 valid data points per input variable.

Developed from data set Table C-12.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

A02: Minor regression variable; 2.6% of MAD variance. Improves model's data fit by moderating effect of E13.

A12: Major variable; 6.1% of MAD variance. Logical positive correlation between MAD and AGE unreliability.

A19: Minor variable; 4.0 % of MAD variance. Fine-tunes model by reinforcing A02.

011: Major variable; 13.1% of MAD variance. Descent rate may be considered a measure of the severity of equipment environment and is logically positively correlated with MAD.

E13: The strongest independent variable; 73.1% of MAD variance. Logical positive correlation between severity of environment and MAD.

E20: Minor variable; 1.1% of MAD variance. Fine-tunes model by strongly reinforcing A12 and 011.

TABLE D-13

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots B_{nn}EN_{nn})$$

Equipment Item: Radome (WUC 11A01)

Regression Equation:  $MAD = -2.299 + 0.058(F08) + 0.0274(\emptyset05) + 0.0125(\emptyset21) - 0.078(E18)$

Where -- F08 Type of Failure Problems  
 \emptyset05 Average Take-Off Speed  
 \emptyset21 Operations Landings Per Aircraft  
 E18 Max. Crosswinds 10-19 MPH

Computed T = +1.888  
 Computed T = +2.097  
 Computed T = +7.270  
 Computed T = -3.280  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.995  
 Adjusted Standard Error = 0.253

Remarks:

Model based on 7 valid data points per input variable.  
 Developed from data set Table C-13.

Possible Interpretation of Relationships:

Intercept: See explanatory note.

F08: Minor regression variable; 0.9% of MAD variance. Improves model's data fit

\emptyset05: Minor variable; 1.4% of MAD variance.

\emptyset21: The dominant independent variable; 90.9% of MAD variance.

E18: Significant variable; 6.3% of MAD variance.

TABLE D-14

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Windshield (WUC 11A02)

Regression Equation: MAD = +18.2433 - 0.099(F07) - 0.0053(Ø15) + 0.0309(Ø21) - 0.0371(Ø27) - 0.0289(E18)

Where --	F07 Support Equipment Reliability	Computed T = -0.558
	Ø15 Total Flying Hours Per Aircraft	Computed T = -2.273
	Ø21 Operations Landings Per Aircraft	Computed T = +3.712
	Ø27 Operations Sorties Per Aircraft	Computed T = -3.534
	E18 Max. Crosswinds 10-19 MPH	Computed T = -1.558
		Computed T =
		Computed T =

Adjusted Multiple Correlation Coefficient = 0.973  
Adjusted Standard Error = 0.942

Remarks:

Model based on 9 valid data points per input variable.  
Developed from data set Table C-14.

Possible Interpretation of Relationships:

Intercept: May be thought of as an irreducible maintenance demand not explained by the constituent model variables.

F07: Significant regression variable; 4.0% of MAD variance.

Ø15: Significant variable; 4.6% of MAD variance.

Ø21: Minor variable; 1.3% of MAD variance.

Ø27: Significant variable; 6.8% of MAD variance.

E18: Dominant independent variable; 80.6% of MAD variance.

TABLE D-15

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Wings (WUC 11K)

Regression Equation:  $MAD = -27.4212 + 0.0205(F04) - 0.0063(\emptyset08) + 0.5034(\emptyset12) - 0.0962(\emptyset14) + 0.0157(\emptyset21) - 0.3339(E13) + 0.2438(E20)$

Where -- F04 Equipment Volume  
 \emptyset08 Average Climb Rate  
 \emptyset12 Average Landing Speed  
 \emptyset14 Average Landing Weight  
 \emptyset21 Operations Landings Per Aircraft  
 E13 No. of Thunder Days  
 E20 Maximum Crosswinds 30-39 MPH

Computed T = + 8.446  
 Computed T = -13.061  
 Computed T = + 5.182  
 Computed T = - 9.388  
 Computed T = + 1.993  
 Computed T = - 9.736  
 Computed T = + 3.039

Adjusted Multiple Correlation Coefficient = 1.000  
 Adjusted Standard Error = 1.883

## Remarks:

Model based on 9 valid data points per input variable.  
 Developed from data set Table C-15.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

F04: Dominant independent regression variable; 90.8% of MAD variance.

\emptyset08: Minor variable; 1.8% of MAD variance.

\emptyset12: Significant variable; 4.7% of MAD variance.

\emptyset14: Minor variable; 1.6% of MAD variance.

\emptyset21: Minor variable; 0.5% of MAD variance.

E13: Minor variable; 0.4% of MAD variance.

E20: Minor variable; 0.2% of MAD variance.

TABLE D-16

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Seats (WUC 128)

Regression Equation:  $MAD = -4.6375 + 0.0010(\emptyset08) + 0.0493(\emptyset12) + 0.0086(\emptyset17) + 0.024(\emptyset21) - 0.010(\emptyset25) - 0.0538(\emptyset27) - 0.0245(E19)$

Where --	$\emptyset08$ Average Climb Rate	Computed T = +15.30
	$\emptyset12$ Average Landing Speed	Computed T = +11.097
	$\emptyset17$ Operations Flying Hours Per Aircraft	Computed T = +13.157
	$\emptyset21$ Operations Landings Per Aircraft	Computed T = +26.900
	$\emptyset25$ Total Sorties Per Aircraft	Computed T = -14.472
	$\emptyset27$ Operations Sorties Per Aircraft	Computed T = -18.978
	E19 Maximum Crosswinds 20-29 MPH	Computed T = - 8.396

Adjusted Multiple Correlation Coefficient = 1.000  
Adjusted Standard Error = 0.012

## Remarks:

Model based on 9 valid data points per input variable.  
Developed from data Set Table C-16.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

- $\emptyset08$ : Very minor regression variable; 0+% of MAD variance. In model for fine tuning purposes only.
- $\emptyset12$ : Very minor variable; 0+% of MAD variance.
- $\emptyset17$ : Minor variable; 0.1% of MAD variance.
- $\emptyset21$ : Dominant independent variable; 89.1% of MAD variance.
- $\emptyset25$ : Very minor variable; 0+% of MAD variance.
- $\emptyset27$ : Significant variable; 8.7% of MAD variance.
- E19: Significant variable; 2.1% of MAD variance.

TABLE D-17

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Main Landing Gear (WUC 13A)

Regression Equation:  $MAD = -3.8152 + 0.0013(F03) + 1.1603(F06) + 1.7355(F13) + 0.0389(\emptyset14) + 0.0101(\emptyset19)$

Where -- F03 Equipment Weight  
 F06 Support Equipment Complexity  
 F13 Removals to Access Other Equipment  
 $\emptyset14$  Average Landing Weight  
 $\emptyset19$  Total Landings Per Aircraft

Computed T = + 8.944  
 Computed T = +64.944  
 Computed T = +17.811  
 Computed T = + 9.454  
 Computed T = +27.658  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 1.000  
 Adjusted Standard Error = 0.162

## Remarks:

Model based on 9 valid data points per input variable.  
 Developed from data set Table C-17.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

F03: Significant regression variable; 11.0% of MAD variance.

F06: Significant variable; 8.7% of MAD variance.

F13: Dominant variable of regression; 78.2% of MAD variance.

$\emptyset14$ : Minor variable; 0.2% of MAD variance.

$\emptyset19$ : Minor variable; 1.9% of MAD variance.

TABLE D-18

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Brakes (WUC 130)

Regression Equation:  $MAD = -31.3801 + 0.1277(F09) + 2.0431(003) + 0.1902(005) + 0.007(026) - 0.0017(031) - 0.008(E03)$

Where -- F09 Inflight Squawk Verification Rate  
 003 Average Mission Mix  
 005 Average Take-Off Speed  
 026 Training Sorties Per Aircraft  
 031 Service Aircraft Ceiling  
 E03 Runway Direction

Computed T = +3.335  
 Computed T = +3.535  
 Computed T = +4.774  
 Computed T = +3.683  
 Computed T = -3.959  
 Computed T = -6.317  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.986  
 Adjusted Standard Error = 0.288

## Remarks:

Model based on 9 valid data points per input variable.  
 Developed from data set Able C-18.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

F09: Significant regression variable; 5.9% of MAD variance.

003: Minor variable; 0.9% of MAD variance.

005: Major variable; 54.4% of MAD variance.

026: Minor variable; 0.8% of MAD variance.

031: Significant variable; 3.6% of MAD variance.

E03: Major variable; 33.3% of MAD variance.

TABLE D-19

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Stabilator (WUC 14C)

Regression Equation:  $MAD = -2.469 + 0.0023(F03) + 0.8617(F06) + 0.0141(\emptyset21) - 0.0872(E20)$

Where -- F03 Equipment Weight  
F06 Support Equipment Complexity  
 $\emptyset21$  Operations Landings Per Aircraft  
E20 Maximum Crosswinds 30-39 MPH

Computed T = +4.316  
Computed T = +4.804  
Computed T = +3.104  
Computed T = -1.306  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.983  
Adjusted Standard Error = 0.979

Remarks:

Model based on 9 valid data points per input variable.  
Developed from data set Table C-19.

Possible Interpretation of Relationships:

Intercept: See explanatory note.

F03: Significant regression variable; 6.3% of MAD variance.

F06: Significant variable; 4.0% of MAD variance.

$\emptyset21$ : Significant variable; 5.1% of MAD variance.

E20: Dominant variable; 82.4% of MAD variance.



TABLE D-20

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Rudder (WUC 14D)

Regression Equation:  $MAD = +0.2636 + 0.0022(\emptyset15) - 1.9625(\emptyset34) - 0.0013(E03)$

Where --  $\emptyset15$  Total Flying Hours Per Aircraft  
 $\emptyset34$  Accidents (Major/Minor) Per Aircraft  
 E03 Runway Direction

Computed T = +11.746  
 Computed T = - 3.563  
 Computed T = - 1.988  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.991  
 Adjusted Standard Error = 0.165

Remarks:

Model based on 9 valid data points per input variable.  
 Developed from data set Table C-20.

Possible Interpretation of Relationships:

Intercept: Irreducible maintenance demand not accounted for by model variables.

$\emptyset15$ : Dominant variable of regression; 92.4% of MAD variance.

$\emptyset34$ : Significant variable; 5.1% of MAD variance.

E03: Minor variable; 1.1% of MAD variance.

TABLE D-21

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Flaps (WUC 14H)

Regression Equation:  $MAD = +48.3324 + 0.010(F03) + 0.967(F06) - 0.618(F08) - 0.023(\emptyset15) + 0.007(\emptyset27) - 0.224(E18) + 0.049(E19)$

Where --	F03	Equipment Weight	Computed T = +80.321
	F06	Support Equipment Complexity	Computed T = +25.359
	F08	Type of Failure Problems	Computed T = -28.847
	$\emptyset15$	Total Flying Hours Per Aircraft	Computed T = -58.312
	$\emptyset27$	Operations Sorties Per Aircraft	Computed T = + 6.345
	E18	Maximum Crosswinds 10-19 MPH	Computed T = -74.905
	E19	Maximum Crosswinds 20-29 MPH	Computed T = + 5.799

Adjusted Multiple Correlation Coefficient = 1.000  
Adjusted Standard Error = 0.228

## Remarks:

Model based on 9 valid data points per input variable.  
Developed from data set Table C-21.

## Possible Interpretation of Relationships:

Intercept: Irreducible maintenance demand not accounted for by model variables.

F03: Significant regression variable; 3.3% of MAD variance.

F06: Major subordinate variable; 14.5% of MAD variance.

F08: Minor variable; 1.3% of MAD variance.

$\emptyset15$ : Significant variable; 5.6% of MAD variance.

$\emptyset27$ : Minor variable; 0.2% of MAD variance.

E18: Dominant regression variable; 75.0% of MAD variance.

E19: Very minor variable; 0+% of MAD variance.

TABLE D-22

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Water Separator (WUC 41A)

Regression Equation:  $MAD = -1.249 + 0.022(E19) - 0.0188(E24)$

Where -- E19 Maximum Crosswinds 20-29 MPH  
E24 Mean Minimum Temperature

Computed T = +3.070  
Computed T = -2.441  
Computed T =  
Computed T =  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.849  
Adjusted Standard Error = 0.423

Remarks:

Model based on 9 valid data points per input variable.  
Developed from data set Table C-22.

Possible Interpretation of Relationships:

Intercept: See explanatory note.

E19: Major regression variable; 51.2% of MAD variance.

E24: Major variable; 24.3% of MAD variance.

TABLE D-23

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Generator Assy. (WUC 42A)

Regression Equation:  $MAD = -1.290 + 0.904(F13) + 0.018(\emptyset07)$

Where -- F13 Removals to Access Other Equipment  
 $\emptyset07$  Percent of Maximum Take-Off Weight

Computed T = +4.412  
 Computed T = +2.759  
 Computed T =  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.923  
 Adjusted Standard Error = 0.163

Remarks:

Model based on 9 valid data points per input variable.  
 Developed from data set Table C-23

Possible Interpretation of Relationships:

Intercept: See explanatory note.

F13: Dominant independent regression variable; 70.6% of MAD variance.

$\emptyset07$ : Major subordinate variable; 16.4% of MAD variance.

TABLE D-24

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Anti-Collision Lights (44A01)

Regression Equation:  $MAD = +27.614 - 0.1434(F03) + 1.070(F06) - 0.010(\emptyset11) - 0.019(\emptyset21) - 0.038(\emptyset25) - 0.084(\emptyset27) + 3.971(E30)$

Where --	F03	Equipment Weight	Computed T =	- 6.959
	F06	Support Equipment Complexity	Computed T =	+ 7.736
	$\emptyset11$	Average Descent Weight	Computed T =	-10.647
	$\emptyset21$	Operations Landings Per Aircraft	Computed T =	+13.019
	$\emptyset25$	Total Sorties Per Aircraft	Computed T =	-10.010
	$\emptyset27$	Operations Sorties Per Aircraft	Computed T =	-10.702
	E30	Average Obstruction Type	Computed T =	+ 8.638

Adjusted Multiple Correlation Coefficient = 1.000  
Adjusted Standard Error = 0.077

Remarks:

Model based on 9 valid data points per input variable.  
Developed from data set Table C-24.

Possible Interpretation of Relationships:

Intercept: Irreducible maintenance demand not accounted for by model variables.

F03: Dominant independent regression variable; 83.8% of MAD variance.

F06: Significant variable; 8.5% of MAD variance.

$\emptyset11$ : Minor variable; 0.8% of MAD variance.

$\emptyset21$ : Significant variable; 4.1% of MAD variance.

$\emptyset25$ : Minor variable; 1.0% of MAD variance.

$\emptyset27$ : Minor variable; 0.1% of MAD variance.

E30: Minor variable; 1.7% of MAD variance.

TABLE D-25

COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Landing/Taxi Lights (WUC-44A02)

Regression Equation:  $MAD = +4.937 + 0.280(F03) + 18.601(F13) - 0.006(\emptyset15) - 0.0498(E18) + 0.051(E19)$

Where -- F03 Equipment Weight

F13 Removals to Access Other Equipment

$\emptyset15$  Total Flying Hours Per Aircraft

E18 Maximum Crosswinds 10-19 MPH

E19 Maximum Crosswinds 20-29 MPH

Computed T = +12.790

Computed T = + 9.519

Computed T = - 7.757

Computed T = - 7.536

Computed T = + 8.375

Computed T =

Computed T =

Adjusted Multiple Correlation Coefficient = 0.999

Adjusted Standard Error = 0.284

Remarks:

Model based on 9 valid data points per input variable.  
Developed from data set Table C-25.

Possible Interpretation of Relationships:

- Intercept: Irreducible maintenance demand not accounted for by model variables.

F03: Significant variable; 4.8% of MAD variance.

F13: Minor variable; 2.6% of MAD variance.

$\emptyset15$ : Minor variable; 2.5% of MAD variance.

E18: Dominant variable; 78.8% of MAD variance.

E19: Major variable; 11.2% of MAD variance.

TABLE D-26

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Hydraulic Pumps (WUC 45A)

Regression Equation:  $MAD = +1.0089 - 0.031(F11) - 0.0001(\emptyset08) - 0.005(\emptyset14) - 0.026(\emptyset32) + 0.288(\emptyset33) + 0.013(E06) - 0.079(E08)$

Where -- F11 Ground to Flight Operating Ratio  
 \emptyset08 Average Climb Rate  
 \emptyset14 Average Landing Weight  
 \emptyset32 Aircraft Crew Size  
 \emptyset33 Average Sortie Length  
 E06 Number of Snow Days  
 E08 Mean Snow Depth

Computed T = -9.855  
 Computed T = -6.668  
 Computed T = -3.738  
 Computed T = -1.280  
 Computed T = +7.971  
 Computed T = +3.936  
 Computed T = -2.227

Adjusted Multiple Correlation Coefficient = 1.000  
 Adjusted Standard Error = 0.053

## Remarks:

Model based on 9 valid data points per input variable.  
 Developed from data set Table C-26.

## Possible Interpretation of Relationships:

Intercept: Irreducible maintenance demand not accounted for by model variables.

F11: Minor regression variable; 1.3% of MAD variance.

\emptyset08: Minor variable; 0.7% of MAD variance.

\emptyset14: Minor variable; 0.3% of MAD variance.

\emptyset32: Minor variable; 0.2% of MAD variance.

\emptyset33: Minor variable; 1.1% of MAD variance.

E06: Significant variable; 8.5% of MAD variance.

E08: Dominant variable; 87.9% of MAD variance.

TABLE D-27

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Fuel Tanks (WUC 46A)

Regression Equation:  $MAD = +12.353 + 0.080(F16) + 0.0003(\emptyset10) - 0.0078(\emptyset15) + 0.0169(\emptyset21) - 0.019(\emptyset27) - 0.060(E18) + 0.027(E19)$

Where -- F16 Equipment Protection Methodology  
 \emptyset10 Average Cruise Altitude  
 \emptyset15 Total Flying Hours Per Aircraft  
 \emptyset21 Operations Landings Per Aircraft  
 \emptyset27 Operations Sorties Per Aircraft  
 E18 Maximum Crosswinds 10-19 MPH  
 E19 Maximum Crosswinds 20-29 MPH

Computed T = + 3.678  
 Computed T = + 8.001  
 Computed T = -30.303  
 Computed T = +17.054  
 Computed T = -15.431  
 Computed T = -19.955  
 Computed T = +11.028

Adjusted Multiple Correlation Coefficient = 1.000  
 Adjusted Standard Error = 0.151

## Remarks:

Model based on 9 valid data points per input variable.  
 Developed from data set Table C-27.

## Possible Interpretation of Relationships:

Intercept: Irreducible maintenance demand not accounted for by model variables.

F16: Minor regression variable; 0.2% of MAD variance.

\emptyset10: Minor regression variable; 1.0% of MAD variance.

\emptyset15: Major variable; 17.1% of MAD variance.

\emptyset21: Minor variable; 1.0% of MAD variance.

\emptyset27: Significant variable; 3.0% of MAD variance.

E18: Dominant regression variable; 73.4% of MAD variance.

E19: Significant variable; 4.2% of MAD variance.



TABLE D-28

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Oxygen Regulator (WUC 47A01)

Regression Equation:  $MAD = +5.476 - 0.121(F03) - 0.356(\emptyset30) + 0.038(E06) + 0.026(E07) + 0.181(E21) - 0.081(E24) - 0.065(E27)$

Where --	F03 Equipment Weight	Computed T = - 5.639
	$\emptyset30$ Maximum Aircraft Speed	Computed T = -14.090
	E06 Number of Snow Days	Computed T = +25.109
	E07 Total Snow Fall	Computed T = +12.655
	E21 Maximum Crosswinds 40-49 MPH	Computed T = +23.040
	E24 Mean Minimum Temperature	Computed T = -28.036
	E27 Days Minimum Temperature was Below 32° "F"	Computed T = -28.309

Adjusted Multiple Correlation Coefficient = 1.000  
Adjusted Standard Error = 0.043

## Remarks:

Model based on 9 valid data points per input variable.  
Developed from data set Table C-28.

## Possible Interpretation of Relationships:

Intercept: Irreducible maintenance demand not accounted for by model variables.

F03: Minor regression variable; 0.8% of MAD variance.

$\emptyset30$ : Minor variable; 3.0% of MAD variance.

E06: Major variable; 13.3% of MAD variance.

E07: Minor variable; 3.2% of MAD variance.

E21: Dominant variable; 65.3% of MAD variance.

E24: Significant regression variable; 7.1% of MAD variance.

E27: Significant variable; 7.2% of MAD variance.

TABLE D-29

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: LOX Converter (WUC 47A02)

Regression Equation:  $MAD = -2.4302 + 0.058(F08) + 0.016(005) - 0.0001(006) + 0.168(033)$

Where -- F08 Type of Failure Problems  
 005 Average Take-Off Speed  
 006 Median Take-Off Distance  
 033 Average Sortie Length

Computed T = +2.394  
 Computed T = +5.195  
 Computed T = +2.394  
 Computed T = +2.846  
 Computed T =  
 Computed T =  
 Computed T =

Adjusted Multiple Correlation Coefficient = 0.980  
 Adjusted Standard Error = 0.153

## Remarks:

Model based on 9 valid data points per input variable.  
 Developed from data set Table C-29.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

F08: Major regression variable; 9.7% of MAD variance.

005: Major variable; 12.6% of MAD variance.

006: Minor variable; 1.7% of MAD variance.

033: Dominant independent variable; 73.4% of MAD variance.

TABLE D-30

## COMPOSITE MAINTENANCE METRICS MODELS

(Compute estimated maintenance action demand (EMAD) per unit per year as a function of significant equipment, operational, and environmental parameters)

Form of model (multiple regression estimating equation):

$$EMAD = A + (B_{e1}EQ_{e1} + \dots + B_{en}EQ_{en}) + (B_{o1}OP_{o1} + \dots + B_{on}OP_{on}) + (B_{n1}EN_{n1} + \dots + B_{nn}EN_{nn})$$

Equipment Item: Engine Fire Detection (WUC 49A)

Regression Equation:  $MAD = -0.316 - 0.006(F08) + 0.0006(E16) + 0.004(E19) - 0.0017(E24)$

Where -- F08 Type of Failure Problems  
E16 Predominate Wind Direction  
E19 Maximum Crosswinds 20-29 MPH  
E24 Mean Minimum Temperature

Computed T = -2.469  
Computed T = +9.331  
Computed T = +7.795  
Computed T = -6.571  
Computed T =  
Computed T =  
Computed T =

Adjusted Multiple Correlation Coefficient = 0.992  
Adjusted Standard Error = 0.015

## Remarks:

Model based on 9 valid data points per input variable.  
Developed from data set Table C-30.

## Possible Interpretation of Relationships:

Intercept: See explanatory note.

F08: Minor regression variable; 1.5% of MAD variance.

E16: Major regression variable; 41.0% of MAD variance.

E19: Major variable; 45.5% of MAD variance.

E24: Major variable; 11.0% of MAD variance.

## APPENDIX E

### WEIGHTED AVERAGE MAINTENANCE TASK SELECTION PROBABILITY DATA & CALCULATION WORKSHEETS

The tables contained in this appendix are worksheets which include the source data and transformation data necessary to calculate selection probabilities for each of the standard equipment maintenance tasks simulated by aircraft LCOM maintenance networks. One set of worksheets was developed for each of the 30 aircraft subsystems included in the study.

The subsystem task selection probability calculations were based on 'weighted average' task occurrence frequencies which were transformed from the actual task occurrence frequency histories of the study equipment items. This transformation process was necessary for the normalization of the equipment sample data from each of the study aircraft/base combinations to a common subsystem basis-for-comparison of maintenance task selection rates. The calculation methodology used is given in the notes on each worksheet.

The resulting task probability distributions for on-equipment and off-equipment maintenance tasks are displayed for each aircraft/base data case, for each of the 30 study equipment subsystems. These occurrence probabilities are distributed between--

- R (Remove and replace),
- M (Fix in place),
- and ● H (Check OK) On-equipment tasks;
- and --
- N (Sent on to depot),
- K (Bench check OK),
- and ● W (Shop repair) Off-equipment tasks.

The individual data-case task selection probabilities given in this appendix were then combined into overall task selection probabilities and variance statistics for the population of aircraft/bases studied. These statistics are given in Appendix F.

# APPENDIX E (Cont)

## WEIGHTED AVERAGE MAINTENANCE TASK SELECTION PROBABILITY WORKSHEETS

<u>SYSTEM</u>		<u>TABLE</u>
23000	Propulsion. . . . .	E-1
51A00	Flight Indicators . . . . .	E-2
51E00	Air Data System . . . . .	E-3
51N00	Horizontal Situation Indicator. . . . .	E-4
52A00	Autopilot . . . . .	E-5
63A00	UHF Communication Set . . . . .	E-6
65A00	IFF Transponder Set . . . . .	E-7
71A00	Inertial Navigation Set . . . . .	E-8
71C00	Instrument Landing Set. . . . .	E-9
71D00	TACAN Set . . . . .	E-10
71F00	Attitude-Heading Reference Set. . . . .	E-11
74F00	Radar Set . . . . .	E-12
11A01	Radome Assembly . . . . .	E-13
11A02	Windshield. . . . .	E-14
11K00	Wings . . . . .	E-15
12B00	Cockpit Furnishings . . . . .	E-16
13A00	Main Landing Gear . . . . .	E-17
13D00	Brake Subsystem . . . . .	E-18
14C00	Stabilator Subsystem. . . . .	E-19
14D00	Rudder Subsystem. . . . .	E-20
14H00	Flaps Subsystem . . . . .	E-21
41A00	Environmental Control Subsystem . . . . .	E-22
42A00	Aircraft Power Generation Subsystem . . . . .	E-23
44A01	Navigation/Anti-Collision Lights. . . . .	E-24
44A02	Landing/Taxi Lights . . . . .	E-25
45A00	Hydraulic Power Subsystem . . . . .	E-26
46A00	Internal Fuel Tanks . . . . .	E-27
47A01	Oxygen Regulator. . . . .	E-28
47A02	LOX Converter . . . . .	E-29
49A00	Fire Detection Subsystem. . . . .	E-30

NOTE: Each table contains three worksheets with three data-cases each as follows:

- SHEET 1: F-15A/Luke, F-15A/Bitburg, B-52G/Fairchild.
- SHEET 2: FB-111A/Plattsburgh, C-141A/Travis, KC-135A/Fairchild.
- SHEET 3: T-38A/Randolph, A-10A/Myrtle Beach, A-10A/Davis-Monthan.

TABLE E-1 SHEET 1

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**

**TABLE E-1 SHEET 2**

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM REGIONAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

### TASK PROBABILITY DATA SHEET

**TABLE E-1 SHEET 3**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED

**TASK PROBABILITY DATA SHEET**



**TABLE E-2 SHEET 1**

TASK CODE	SUBSYSTEM TASK TOTALS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL TASKS MUC:	WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL TASKS MUC:	WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL TASKS MUC:	WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL TASKS MUC:
R (-move)	87	MUC: SIAAD	17	2.543	6	0.204	10	0.366	5-4	34.441	38.606	0.6717
H (fix)	23		2	0.299	9	1.134	1	0.087	11	7.016	8.536	0.1485
K check ok	17		0	0	1	0.126	0	0	16	10.205	10.331	0.1798
TOTALS	127		19		16		11		81		57.473	1.0000
OCCURRENCE WEIGTHS				0.1496		0.1260		0.0866		0.6371		
N (sent on)	72		11	1.781	5	0.218	8	0.838	49	32.914	35.771	0.6685
K check ok	30		6	0.971	0	0	3	0.314	21	14.400	15.655	0.2831
H (fix)	3		0	0	0	0	0	0	3	2.057	2.057	0.0384
TOTALS	105		17		5		11		72		53.523	1.0000
OCCURRENCE WEIGTHS				0.1619		0.0716		0.1018		0.6157		
R	51A	MUC: SIAAD	13	3.151	3	0.217	5	0.531	subsys residual			
H	45		2	0.485	0	0	0	0	24	13.819	17.728	0.6585
I	11		1	0.212	2	0.152	2	0.212	8	4.606	5.041	0.1894
TOTALS	66		16		5		7		6	3.465	4.061	0.1571
OCCURRENCE WEIGTHS				0.2444		0.0758		0.1061		0.5757		
N	43		15	4.830	0		4	0.339	24	14.237	17.406	0.7107
K	14		3	0.966	0		1	0.085	10	5.932	6.993	0.2658
H	2		1	0.322	0		0	0	1	0.583	0.915	0.0385
TOTALS	59		19		0		5		35		27.304	
OCCURRENCE WEIGTHS				0.3120				0.0847		0.5782		
R	51AA	MUC: SIAAAA	2	0.147	28	6.012			subsys residual			
H	13		8	4.806	7	1.503			76	54.089	60.248	0.6394
I	21		2	0.147	0	0			36	25.631	31.730	0.3841
TOTALS	36		12		35				4	2.847	2.994	0.0315
OCCURRENCE WEIGTHS				0.0736		0.2147			116		94.992	
N	18		6	0.365	30	7.827				0.7117		
K	5		1	0.061	0	0			73	49.576	57.703	0.9136
H	0		0	0	0	0			4	2.713	2.774	0.0454
TOTALS	23		7		30				1	0.678	0.678	0.0111
OCCURRENCE WEIGTHS				0.0409		0.2809			78		61.160	1.0001
										0.6773		

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS-  
WEIGHTED AVERAGE TASK PROBABILITIES\* WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS.  
SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS.

# TASK PROBABILITY DATA SHEET

**TABLE E-2 SHEET 2**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED

**TASK PROBABILITY DATA SHEET**

[illegible]

### TASK PROBABILITY DATA SHEET

**TABLE E-3 SHEET 1**

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

## TASK PROBABILITY DATA SHEET

**TABLE E-3 SHEET 2**

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

## TASK PROBABILITY DATA SHEET

TABLE E-3 SHEET 3

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

### TASK PROBABILITY DATA SHEET

TASK CODE	SUBSYSTEM TASK TOTALS MUC:	ACTUAL WEIGHTED TASKS MUC: SINA	ACTUAL WEIGHTED TASKS MUC: SINB	ACTUAL WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	WEIGHTED TASK TOTALS	WEIGHTED AVERAGE TASK PROB
R (-move)	30	21 11.941	7 1.088						13.578	0.6294
M (fix)	4	2 1.137	1 0.157						1.568	0.0726
N (check ok)	17	6 3.412	0 0						6.432	0.2979
TOTALS	51	29	8						21.578	0.9999
OCCURRENCE WEIGTHS										
N (sent on)	32	16 6.000	16 10.000						16.000	0.5378
K (check ok)	14	5 1.895	9 5.685						7.500	0.2521
N (fix)	10	0 0	10 6.450						6.250	0.2101
TOTALS	56	21	35						29.750	1.0000
OCCURRENCE WEIGTHS										
R	39	20 9.556	19 5.047						14.623	0.4458
M	7	5 2.389	1 0.267						2.912	0.0887
H	44	18 8.600	4 1.067						15.290	0.4658
TOTALS	90	43	24						32.935	1.0000
OCCURRENCE WEIGTHS										
N	17	12 5.728	5 2.614						8.542	0.3784
K	12	9 4.296	3 1.528						5.764	0.2640
N	15	0 0	15 7.890						7.940	0.3356
TOTALS	44	21	23						22.046	1.0000
OCCURRENCE WEIGTHS										
R	59	49 38.925	9 1.444						41.394	0.7403
M	12	8 6.518	4 0.692						7.160	0.1281
N	10	9 7.333	0 0						7.358	0.1316
TOTALS	81	66	13						55.912	1.0000
OCCURRENCE WEIGTHS										
N	61	48 36.571	11 1.921						38.619	0.9967
K	1	0 0	0 0						0.064	0.0017
N	1	0 0	0 0						0.064	0.0017
TOTALS	63	48	11						38.747	1.0001
OCCURRENCE WEIGTHS										

SUBSYSTEM NETWORK: SINNO  
HORIZONTAL SITUATION INDICATOR  
AIRCRAFT/BASE: F-15A/LUKE

SUBSYSTEM NETWORK: SINNO  
HORIZONTAL SITUATION INDICATOR  
AIRCRAFT/BASE: F-15A/BITBURG

SUBSYSTEM NETWORK: SINNO  
HORIZONTAL SITUATION INDICATOR  
AIRCRAFT/BASE: B-52D/PATRICKIL

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL .  
 WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**D194-10089-3**

TASK CODE	SUBSYSTEM TASK TOTALS MUC:	ACTUAL WEIGHTED TASKS MUC: STIAD	ACTUAL WEIGHTED TASKS MUC: STIAB	ACTUAL WEIGHTED TASKS MUC: STIBAF	ACTUAL WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	ACTUAL WEIGHTED TASKS MUC:	WEIGHTED TASK TOTALS	WEIGHTED AVERAGE TASK PROB
R (remove)	STAB	5	48	6.907	5	0.130				197.993	0.6571
M (fix)	85	6	5	0.720	5	0.130				68.086	0.2260
K (check ok)	49	1	8	1.151	1	0.026				35.215	0.1169
TOTALS	412	12	61	11	11					301.294	1.0000
OCCURRENCE WEIGTHS		254		0.439	0.029					0.8302	
N (sent on)	167	3	31	5.496	3	0.082				108.188	0.7777
K (check ok)	35	0	5	0.986	0	0				24.785	0.1692
M (fix)	12	3	3	0.532	3	0.082				7.774	0.0531
TOTALS	214	6	39	6	6					146.291	1.0000
OCCURRENCE WEIGTHS		210		0.1723	0.0373					0.7955	
R	STIAG		8	0.289	61	15.311				108.341	0.4698
M	235		10	0.361	31	7.781				100.100	0.3511
N	93		0	0	33	8.283				51.057	0.1791
TOTALS	498		18	1	25					285.104	1.0000
OCCURRENCE WEIGTHS				0.0361	0.2570					0.7129	
N	215		0		47	10.135				131.779	0.9837
K	1		0	0	0	0				1	0.184
N	2		0	0	0	0				2	1.569
TOTALS	218		0	47	47					144.265	1.0000
OCCURRENCE WEIGTHS					0.2157					0.7844	
R	STIAD		20	2.338	9	0.428				70.490	0.5262
M	130		6	0.701	2	0.095				45.912	0.3361
N	27		1	0.117	0	0				19.155	0.1378
TOTALS	231		27	0.1169	11					140.405	1.0001
OCCURRENCE WEIGTHS					0.0476	0.0893				0.7662	
N	101		19	2.475	7	0.542				43.718	0.6734
K	2		1	0.141	0	0				1	0.683
N	39		0	0	4	0.310				21.859	0.3150
TOTALS	142		20	0.408	11					71.301	1.0000
OCCURRENCE WEIGTHS					0.0725	0.0984				0.6831	

SUBSYSTEM NETWORK: S1NOO

HORIZONTAL SITUATION INDICATOR

AIRCRAFT/BASE: FB-111A/PLATTSBURGH

SUBSYSTEM NETWORK: S1NOO

HORIZONTAL SITUATION INDICATOR

AIRCRAFT/BASE: C-141A/TRAVIS

SUBSYSTEM NETWORK: S1NOO

HORIZONTAL SITUATION INDICATOR

AIRCRAFT/BASE: KC-135A/FAIRCHILD

NOTES:  
 OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESTOTAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**



**TABLE E-4 SHEET 3**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**

TABLE E-5 SHEET 1

TASK CODE	SUBSYSTEM TASK TOTALS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		WEIGHTED TASK TOTALS		WEIGHTED AVERAGE TASK PROB	
	MUC:	MUC:	MUC: 52AA	MUC: 52AB	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:
R (remove)	43		16	3.765	14	2.471										13	7.647	0.3726
M (fix)	10		4	0.941	1	0.176										5	2.941	0.1104
K (check ok)	32		0	0	0	0										32	18.822	0.5120
TOTALS	85		20		15											50		1.0000
OFF EQUIPMENT				0.2353		0.1765											0.5782	
M (sent on)	14		1	0.370	11	4.822										2	0.374	0.2088
K (check ok)	14		6	2.419	3	1.315										5	0.959	0.1683
M (fix)	45		20	7.398	18	7.891										7	1.443	0.6229
TOTALS	73		27		32											14		1.0000
OFF EQUIPMENT				0.3699		0.4284											0.1918	
ON EQUIPMENT	52A		MUC: 52AA	MUC: 52AB	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	subsys residual		
R	33		16	2.542	11	1.131										6	4.430	0.1104
M	16		1	0.159	0	0										15	11.074	0.1807
K	58		0	0	0	0										58	42.821	0.6889
TOTALS	107		17		11											79		1.0000
OFF EQUIPMENT				0.1589		0.1018											0.7983	
M	7		5	2.143	1	0.393										1	0.179	0.1311
K	21		7	3.000	10	3.929										4	0.714	0.3694
M	28		12	5.143	11	4.322										5	0.832	0.5000
TOTALS	56		24		22											10		1.0000
OFF EQUIPMENT				0.4686		0.3727											0.1786	
ON EQUIPMENT	52A		MUC: 52AA	MUC: 52AB	MUC: 52ABX	MUC: 52ABK	MUC: 52ABK	MUC: 52ABK	MUC: 52ABK	MUC: 52ABK	MUC: 52ABK	MUC: 52ABK	MUC: 52ABK	MUC: 52ABK	MUC: 52ABK	subsys residual		
R	19	96	13	2.313	67	33.724	0		19	2.449						17	3.376	0.8727
M	18	7	11	1.872	3	1.510	0	0	0	0						11	2.185	0.1167
K	0	1	0	0	1	0.504	0	0	0	0						0	0	0.0106
TOTALS	37	104	24		71		0		18							28		1.0000
OFF EQUIPMENT				0.1702		0.5035				0.1271							0.1986	
M	3	62	2	0.237	18													

NOTES:  
 OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

# TASK PROBABILITY DATA SHEET

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM BESTIAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS.

**0194-10089-3**

TABLE E-5 SHEET 3

TASK CODE	SUBSYSTEM TASK TOTALS MUC: 5211 MUC: 5212	ACTUAL WEIGHTED TASKS MUC: 5218	ACTUAL WEIGHTED TASKS MUC: 5217	ACTUAL WEIGHTED TASKS MUC: 5216	ACTUAL WEIGHTED TASKS MUC: 5215	ACTUAL WEIGHTED TASKS MUC:	ACTUAL TASKS MUC:	WEIGHTED TASKS MUC:	ACTUAL TASKS MUC:	WEIGHTED TASKS MUC:	ACTUAL TASKS MUC:	WEIGHTED TASKS MUC:	WEIGHTED TASK TOTALS	WEIGHTED AVERAGE TASK PROB.
R (remove)	74 0	29 6.305	9 1.239	0 0	0 0	0 0							27.891	0.5169
M (fln)	27 26	1 0.317	8 1.102	1 0.002	10 0.725	0 0							20.703	0.3837
H (check ok)	11 0	0 0	2 0.275	0 0	0 0	0 0							5.262	0.0994
TOTALS	112 26	30	19	1	10	0							53.856	1.0000
OCCURRENCE OF EVENTS	137	0.2174	0.1877	0.0072	0.0725									
N (sent on)	69 20	32 6.726	2 0.670	12 0.887	0 0	0 0							23.918	0.4614
K (check ok)	43 0	1 0.210	40 13.408	0 0	0 0	0 0							14.545	0.2767
M (fln)	41 3	4 0.841	17 5.698	1 0.074	3 0.051	0 0							13.572	0.2618
TOTALS	153 23	37	59	13	3	0							51.835	0.9999
OCCURRENCE OF EVENTS	176	0.2102	0.3332	0.0739	0.0170									
52A 62A	2 1	1 0.200	0											
R	2 1	1 0.200	0										1.800	0.5294
M	0 2	0 0	0										1.600	0.4706
H	0 0	0 0	0										0	0
TOTALS	2 3	1	0										3.400	1.000
OCCURRENCE OF EVENTS	5	0.2000												
N	0 1	0 0	0										0.750	0.3000
K	0 0	0 0	0										0	0
M	1 2	1 0.250	0										1.750	0.7000
TOTALS	1 3	1	0										2.500	1.0000
OCCURRENCE OF EVENTS	4	0.2500												
52A 62A	25 23	21 6.080	1 0.013										24.225	0.5399
R	25 23	21 6.080	1 0.013										24.225	0.5399
M	5 7	1 0.290	0 0										7.961	0.1837
H	6 10	0 0	0 0										11.158	0.2571
TOTALS	36 40	22	1										43.344	1.0000
OCCURRENCE OF EVENTS	76	0.2895	0.0132											
N	5 2	5 3.231	0										3.339	0.1117
K	13 5	13 9.401	0										10.170	0.2888
M	27 13	24 15.509	0										21.170	0.6000
TOTALS	45 20	42	0										35.519	1.0001
OCCURRENCE OF EVENTS	61	0.4462												

ON EQUIPMENT OFF EQUIPMENT SUBSYSTEM NETWORK: 52A00 AUTOPILOT AIRCRAFT/BASE: T-38A/RANDOLPH

ON EQUIPMENT OFF EQUIPMENT SUBSYSTEM NETWORK: 52A00 AUTOPILOT AIRCRAFT/BASE: A-10A/MYRTLE BEACH

ON EQUIPMENT OFF EQUIPMENT SUBSYSTEM NETWORK: 52A00 AUTOPILOT AIRCRAFT/BASE: A-10A/DAVIS-MONTHAN

NOTES:

- OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.
- WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.
- SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.
- WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

### TASK PROBABILITY DATA SHEET

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

### TASK PROBABILITY DATA SHEET

**TABLE E-6 SHEET 2**

[illegible]

NOTES:

- OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.
- WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.
- SUBSYSTEM NESTING ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED

## TASK PROBABILITY DATA SHEET

TASK CODE	SUBSYSTEM TASK TOTALS MUC:	ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		WEIGHTED TASK TOTALS	WEIGHTED AVERAGE TASK PROB
		MUC: 63AA	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:		
ON EQUIPMENT	63A	349	216.745										279.337	0.7179	
OFF EQUIPMENT	367	112	91.849										99.933	0.2479	
TOTALS	48	8	6.579										13.763	0.0341	
ON EQUIPMENT	572	419	0.8199										403.083	0.9999	
OFF EQUIPMENT	65	54	49.239										50.607	0.1263	
TOTALS	46	35	33.239										33.107	0.0826	
ON EQUIPMENT	358	343	305.937										317.121	0.7912	
OFF EQUIPMENT	469	432	0.9211										400.825	1.0001	
TOTALS	63A	0	0										0.0289		
ON EQUIPMENT	0	0	0										0	0	
OFF EQUIPMENT	0	0	0										0	0	
TOTALS	0	0	0										0	0	
ON EQUIPMENT	0	0	0										0	0	
OFF EQUIPMENT	0	0	0										0	0	
TOTALS	0	0	0										0	0	
ON EQUIPMENT	69A	12	6.400										12.000	0.5960	
OFF EQUIPMENT	24	19	10.450										14.050	0.4437	
TOTALS	9	2	1.100										4.250	0.1403	
ON EQUIPMENT	60	33	0.5500										30.100	1.0000	
OFF EQUIPMENT	10	5	3.250										5.000	0.4587	
TOTALS	5	3	1.950										2.650	0.2481	
ON EQUIPMENT	5	5	3.250										3.250	0.2982	
OFF EQUIPMENT	20	13	0.6500										10.900	1.0000	

NOTES:  
 OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TABLE E-7 SHEET 1**

[illegible]

NOTES:

OCURRENCE WEIGHT- ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS- ACTUAL TASKS\* OCURRENCE WEIGHT.  
 SUBSYSTEM ESTIMATED ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY  
 WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTAL % WEIGHTED

# TASK PROBABILITY DATA SHEET



**TABLE E-7 SHEET 2**

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTAL / WEIGHTED TASK TOTALS TOTAL.

**TABLE E-7 SHEET 3**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

# TASK PROBABILITY DATA SHEET

**TABLE E-8 SHEET 1**

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

### TASK PROBABILITY DATA SHEET

[illegible]

NOTES:

**TABLE E-8 SHEET 3**

TASK CODE	SUBSYSTEM TASK TOTALS		ACTUAL WEIGHTED TASKS 71A/B	ACTUAL WEIGHTED TASKS	ACTUAL WEIGHTED TASKS	ACTUAL WEIGHTED TASKS	ACTUAL WEIGHTED TASKS	ACTUAL WEIGHTED TASKS	ACTUAL WEIGHTED TASKS	ACTUAL WEIGHTED TASKS	ACTUAL WEIGHTED TASKS	ACTUAL WEIGHTED TASKS	WEIGHTED TASK TOTALS	WEIGHTED AVERAGE TASK PROB.
	MUC:	MUC:												
R (remove)	0		MUC: 71A/B	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:		0
M (fix)	0													0
K (check ok)	0													0
TOTALS														0
INTERFERENCE WEIGTHS														
N (sent on)	0													0
K (check ok)	0													0
M (fix)	0													0
TOTALS														0
INTERFERENCE WEIGTHS														
R			MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:		
M														
H														
TOTALS														
INTERFERENCE WEIGTHS														
N														
K														
M														
TOTALS														
INTERFERENCE WEIGTHS														
R			MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:		
M														
H														
TOTALS														
INTERFERENCE WEIGTHS														
N														
K														
M														
TOTALS														
INTERFERENCE WEIGTHS														

ON EQUIPMENT OFF EQUIPMENT

SUBSYSTEM NETWORK: 71A00  
INERTIAL NAVIGATION SET  
AIRCRAFT/BASE: T-38A/RANDOLPH

ON EQUIPMENT OFF EQUIPMENT

SUBSYSTEM NETWORK: 71A00  
INERTIAL NAVIGATION SET  
AIRCRAFT/BASE: A-10A/MYRTLE BEACH

ON EQUIPMENT OFF EQUIPMENT

SUBSYSTEM NETWORK: 71A00  
INERTIAL NAVIGATION SET  
AIRCRAFT/BASE: A-10A/DAVIS-MONTHAN

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TABLE E-9 SHEET 1**

[illegible]

NOTES: OCCURRENCE WEIGHT- ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS- ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY  
WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED

TABLE E-9 SHEET 2

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

## TASK PROBABILITY DATA SHEET

AD-A096 689

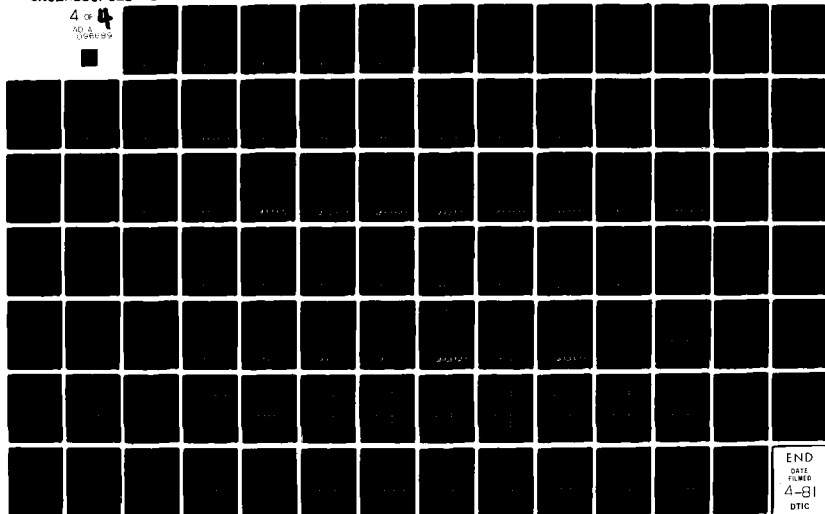
BOEING AEROSPACE CO SEATTLE WA PRODUCT SUPPORT/EXPER--ETC F/G 5/1  
DEVELOPMENT OF MAINTENANCE METRICS TO FORECAST RESOURCE DEMANDS--ETC(U)  
OCT 80 D K HINDES, G A WALKER, D H WILSON F33615-77-C-0075

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AD-A096 689



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TABLE E-9 SHEET 3

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS.

# TASK PROBABILITY DATA SHEET

TABLE E-10 SHEET 1

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

### TASK PROBABILITY DATA SHEET

**TABLE E-10 SHEET 2**

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

### TASK PROBABILITY DATA SHEET

TABLE E-10 SHEET 3

[illegible]

NOTES:

OCCURRENCE WEIGHT- ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS- ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS-  
 WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED

**TABLE E-17 SHEET 1**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM BLIND ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

# TASK PROBABILITY DATA SHEET

[illegible]

NOTES:

- OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.
- WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.
- SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.
- WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

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TABLE E-11 SHEET 3

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

TABLE E-12 SHEET 1

[illegible]

**FORMULAS:**

- OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.
- WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.
- SUBSYSTEM REGIONAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.
- WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.



**TABLE E-12 SHEET 2**

[illegible]

PROFILES:

OCURRENCE WEIGHT-	ACTUAL TASKS TOTAL /	SUBSYSTEM TOTAL TASKS TOTAL.
WEIGHTED TASKS- <td>ACTUAL TASKS* OCURRENCE WEIGHT.</td> <td></td>	ACTUAL TASKS* OCURRENCE WEIGHT.	
SUBSYSTEM WEIGHT.	ACTUAL TASKS-	SUBSYSTEM TOTAL TASKS-
WEIGHTED AVERAGE TASK PROBABILITIES-	WEIGHTED TASK TOTALS/	WEIGHTED TASK TOTALS TOTAL.

**TABLE E-12 SHEET 3**

TASK CODE	SUBSYSTEM TASK TOTALS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		WEIGHTED TASK TOTALS		WEIGHTED AVERAGE TASK PROBS	
	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:
R (remove)																		
M (fix)																		
K (check ok)																		
TOTALS																		
INCURRENCE																		
M (sent on)																		
K (check ok)																		
M (fix)																		
TOTALS																		
INCURRENCE																		
R	72A		MUC: 72AA	MUC: 72AB														
M	0		0	0												0	0	
K	0		0	0												0	0	
M	0		0	0												0	0	
TOTALS	0		0	0												0	0	
INCURRENCE																		
M	0		0	0												0	0	
K	0		0	0												0	0	
M	0		0	0												0	0	
TOTALS	0		0	0												0	0	
INCURRENCE																		
R	72A		MUC: 72AA	MUC: 72AB														
M	14		14,000	0	0											19,000	1,000	
K	0		0	0	0											0	0	
M	0		0	0	0											0	0	
TOTALS	14		14	0	0											14,000	1,000	
INCURRENCE																		
M	0		0	0	0											0	0	
K	0		0	0	0											0	0	
M	11		11,000	0	0											11,000	1,000	
TOTALS	11		11	0	0											11,000	1,000	
INCURRENCE																		

ON EQUIPMENT: SUBSYSTEM NETWORK: 74F00  
RADAR SET  
AIRCRAFT/BASE: T-38A/RANDOLPH

ON EQUIPMENT: SUBSYSTEM NETWORK: 74F00  
RADAR SET  
AIRCRAFT/BASE: A-10A/MYRTLE BEACH

ON EQUIPMENT: SUBSYSTEM NETWORK: 74F00  
RADAR SET  
AIRCRAFT/BASE: A-10A/DAVIS-MONTHAN

NOTES: OCCURRENCE WEIGHT- ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS- ACTUAL TASKS \* OCCURRENCE WEIGHT.  
SUBSYSTEM MEDIAN ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY  
WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED Y-P TOTALS/ WEIGHTED

# TASK PROBABILITY DATA SHEET

TABLE E-13 SHEET 1

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

# TASK PROBABILITY DATA SHEET

TABLE E-13 SHEET 2

[illegible]

NOTES:

### TASK PROBABILITY DATA SHEET

[illegible]

## TASK PROBABILITY DATA SHEET

**TABLE E-14 SHEET 1**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

[illegible]

### TASK PROBABILITY DATA SHEET

TASK CODE	SUBSYSTEM TASK TOTALS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		WEIGHTED TASK TOTALS		WEIGHTED AVERAGE TASK PMOR	
	MIC:	MIC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	MUC:	TOTALS	AVERAGE	PMOR
R (remove)	18													18	0.3333	
M (fix)	36													36	0.4447	
K (check ok)	0													0	0	
TOTALS	54													54	1.0000	
SUBSYSTEM NETWORK: 11A02 WINDSHIELD																
R (sent on)	14													14	0.3320	
K (check ok)	0													0	0	
M (fix)	26													26	0.6500	
TOTALS	40													40	1.0000	
AIRCRAFT/BASE: T-38A/RANDOLPH																
R	1													1	0.200	0.2000
M	4													4	0.800	0.8000
K	0													0	0	0
TOTALS	5													5	1.000	1.0000
SUBSYSTEM NETWORK: 11A02 WINDSHIELD																
R	0													0	0	0
M	0													0	0	0
K	0													0	0	0
TOTALS	1													1	1.000	1.0000
AIRCRAFT/BASE: A-10A/MIDDLE BEACH																
R	4	0.320												4	0.0268	
M	167	0.800												167	0.9732	
K	0	0												0	0	
TOTALS	171	0.0600												171	1.0000	
SUBSYSTEM NETWORK: 11A02 WINDSHIELD																
R	0	0												0	0	
M	0	0												0	0	
K	1	0.083												1	0.084	1.0000
TOTALS	1	0.083												1	0.167	1.0000
AIRCRAFT/BASE: M-10A/DAVIS-MONTHAN																

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESTORAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

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TABLE E-75 SHEET 1

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM MEDIAN ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**

TABLE E-15 SHEET 2

[illegible]

NOTES:

OCURRENCE WEIGHT- ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS- ACTUAL TASKS\* OCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**

TABLE E-15 SHEET 3

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS.

**TASK PROBABILITY DATA SHEET**

TABLE E-16 SHEET 1

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

# TASK PROBABILITY DATA SHEET

TABLE E-16 SHEET 2

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

## TASK PROBABILITY DATA SHEET

TABLE E-16 SHEET 3

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**

TABLE E-17 SHEET 1

[illegible]

NOTES:

# TASK PROBABILITY DATA SHEET

TABLE E-17 SHEET 2

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESTOTAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

# TASK PROBABILITY DATA SHEET



**TABLE E-17 SHEET 3**

[illegible]

NOTES:

# TASK PROBABILITY DATA SHEET

TABLE E-18 SHEET 1

[illegible]

NOTES:

OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

### TASK PROBABILITY DATA SHEET

TABLE E-18 SHEET 2

TASK CODE	SUBSYSTEM TASK TOTALS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		ACTUAL WEIGHTED TASKS		WEIGHTED TASK TOTALS		WEIGHTED AVERAGE TASK PROB		
	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	MUC	TOTALS	TOTALS		
ON EQUIPMENT																							
SUBSYSTEM NETWORK: 13000																							
BRAKE SUBSYSTEM																							
AIRCRAFT/BASE: F-111A/PLATTSBURGH																							
13JA	R (remove)	49	30	20.862																19	5.777	26.244	0.2347
	M (fix)	60	26	18.080																34	10.556	28.136	0.2504
	K (check ok)	88	81	56.327																7	2.132	58.457	0.5149
	TOTALS	197	137																	60		113.544	1.0000
	WEIGHTED AVERAGE TASK PROB			0.6954																		0.3046	
13DB	R (sent on)	222	3	0.435																219	182.267	187.702	0.8717
	K (check ok)	17	5	0.724																12	10.261	14.785	0.0516
	M (fix)	44	33	4.782																11	4.406	14.188	0.0666
	TOTALS	283	41																	242		212.875	0.9999
	WEIGHTED AVERAGE TASK PROB			0.4449																	0.8557		
OFF EQUIPMENT																							
SUBSYSTEM NETWORK: 13000																							
BRAKE SUBSYSTEM																							
AIRCRAFT/BASE: G-141A/TRAVIS																							
13CB	R	365	139	47.104																226	149.250	146.154	0.2695
	M	854	208	70.637																646	426.618	427.255	0.8821
	K	103	102	34.639																1	0.660	35.299	0.0434
	TOTALS	1322	449																	873		729.068	1.0000
	WEIGHTED AVERAGE TASK PROB			0.3396																		0.6604	
13C	R	103	5	2.634																98	46.374	47.015	0.3083
	M	57	47	24.760																4	1.693	26.453	0.1677
	K	163	115	60.512																47	22.714	83.296	0.5240
	TOTALS	317	167																	150		158.457	1.0000
	WEIGHTED AVERAGE TASK PROB			0.5261																	0.4732		
ON EQUIPMENT																							
SUBSYSTEM NETWORK: 13000																							
BRAKE SUBSYSTEM																							
AIRCRAFT/BASE: KC-135A/FAIRCHILD																							
13CA	R	41	34	24.715																10	2.731	27.446	0.1913
	M	71	34	24.715																37	10.126	81.820	0.2426
	K	123	105	76.324																18	4.716	81.240	0.5661
	TOTALS	235	173																	65		147.506	1.0000
	WEIGHTED AVERAGE TASK PROB			0.7269																	0.2731		
13CB	R	11	9	6.310																2	0.338	8.668	0.0193
	M	232	232	222.615																0	0	222.615	0.4255
	K	234	227	222.710																7	0.132	222.392	0.4852
	TOTALS	477	468																	9		441.325	1.0000
	WEIGHTED AVERAGE TASK PROB			0.9911																	0.0189		

NOTES: OCCURRENCE WEIGHT- ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS- ACTUAL TASKS\* OCCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

TASK PROBABILITY DATA SHEET

[illegible]

### TASK PROBABILITY DATA SHEET

TABLE E-19 SHEET 1

[illegible]

WEIGHTS:  
 OCCURRENCE WEIGHT- ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS- ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

# TASK PROBABILITY DATA SHEET

TABLE E-19 SHEET 2

[illegible]

NOTES:

OCURRENCE WEIGHT- ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS- ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

## TASK PROBABILITY DATA SHEET

**TABLE E-19 SHEET 3**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

TABLE E-20 SHEET 1

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESTDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TO ULS/ WEIGHTED TASK TOTAL S TOTAL.



**TABLE E-20 SHEET 2**

[illegible]

NOTES:  
 OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**

**TABLE E-20 SHEET 3**

[illegible]

NOTES:  
 OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

TABLE E-2] SHEET 1

[illegible]

NOTES:  
 OCCURRENCE WEIGHT- ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS- ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM MEDIAN ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

# TASK PROBABILITY DATA SHEET

TABLE E-21 SHEET 2

[illegible]

NOTES: OCCURRENCE WEIGHT- ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.

WEIGHTED TASKS- ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

SUBSYSTEM REGIONAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS- WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**

[illegible]**TASK PROBABILITY DATA SHEET**

TABLE E-22 SHEET 1

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM BESTIVAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**



NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

\*WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM BEST/ALN ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

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**TABLE E-22 SHEET 3**

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL

WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.

SUBSYSTEM WEIGHT= ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF "JUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.



TABLE E-23 SHEET 1

[illegible]

**NOTES:** OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY WEIGHTED TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED

# TASK PROBABILITY DATA SHEET

**TABLE E-23 SHEET 2**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM BEST/DAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

## TASK PROBABILITY DATA SHEET

[illegible]

COPIES:  
 OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESTOTAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

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**TABLE E-24 SHEET 1**

[illegible]

NOTES:

- OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.
- WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.
- SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.
- WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTAL / WEIGHTED TASK TOTAL'S TOTAL.

# TASK PROBABILITY DATA SHEET

TABLE E-24 SHEET 2

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESTINAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITY= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TABLE E-24 SHEET 3**

TASK CODE	SUBSYSTEM TASK TOTALS		ACTUAL TASKS		WEIGHTED TASKS		ACTUAL TASKS		WEIGHTED TASKS		ACTUAL TASKS		WEIGHTED TASKS		ACTUAL TASKS		WEIGHTED TASKS	
	4411	MUC:	44113	MUC:	44115	MUC:	44115	MUC:	44115	MUC:	44115	MUC:	44115	MUC:	44115	MUC:	44115	MUC:
R (remove)	96		25	4.712	12	2.123												
M (fix)	156		24	4.524	33	5.838												
K (check ok)	8		0	0	1	0.177												
TOTALS	260		49		46													
PERFORMANCE																		
W (sent on)	29		9	2.123	9	2.123												
K (check ok)	6		4	0.944	0	0												
M (fix)	160		33	2.715	37	6.728												
TOTALS	195		46		46													
PERFORMANCE																		
44BA			44BAA	0.2359	44BAB	0.2359												
R	0		0		0													
M	0		0		0													
K	0		0		0													
TOTALS	0		0		0													
PERFORMANCE																		
R	0		0		0													
M	0		0		0													
K	0		0		0													
TOTALS	0		0		0													
PERFORMANCE																		
44BA			44BAA	0.4375	44BAB	0.4375												
R	11		4	1.250	2	0.250												
M	5		3	1.312	0	0												
K	0		0	0	0	0												
TOTALS	16		7		2													
PERFORMANCE																		
R	0		0		0													
M	0		0		0													
K	0		0		0													
TOTALS	0		0		0													
PERFORMANCE																		

SUBSYSTEM NETWORK: 44A01  
NAV/ANTI-COLLISION LIGHTS  
AIRCRAFT/BASE: T-38A/RANDOLPH

SUBSYSTEM NETWORK: 44A01  
NAV/ANTI-COLLISION LIGHTS  
AIRCRAFT/BASE: A-1

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**

TABLE E-25 SHEET 1

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET,**

**TABLE E-25 SHEET 2**

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**



[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED

### TASK PROBABILITY DATA SHEET

[illegible]

OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS-  
 SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET:**

**TABLE E-26 SHEET 2**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

## TASK PROBABILITY DATA SHEET

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

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NOTES: : OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL / SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RETOTAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**D194-10089-3**

TABLE E-27 SHEET 2

TASK CODE	SUBSYSTEM TASK TOTALS MUC:	SUBSYSTEM TASK TOTALS MUC:	ACTUAL TASKS MUC: 46HAE	ACTUAL TASKS MUC: 46HAF	ACTUAL TASKS MUC: 46HAG	ACTUAL TASKS MUC: 46HAH	ACTUAL TASKS MUC:	ACTUAL TASKS MUC:	ACTUAL TASKS MUC:	ACTUAL TASKS MUC:	ACTUAL TASKS MUC:	WEIGHTED TASK TOTALS	WEIGHTED TASK TOTALS
R (remove)	3		1 0.196	1 0.257	0 0	0 0						0.415	0.0109
M (fix)	173		33 6.452	44 11.308	43 10.329	57 14.530						48.624	0.9782
K (check ok)	3		1 0.196	1 0.257	0 0	0 0						0.475	0.0109
TOTALS	179		35 0.196	46 0.257	43 0.2402	57 0.2849						48.614	1.0000
R (sent on)	1		0 0	0 0	0 0	1 0.500						0.500	0.5000
K (check ok)	0		0 0	0 0	0 0	0 0						0	0
M (fix)	1		0 0	0 0	0 0	0 0						0.500	0.5000
TOTALS	2		0 0	0 0	0 0	1 0.500						1.000	1.0000
R	46AA		1 0.196	1 0.257	0 0	0 0						0.415	0.0109
M	46AB		96 19.864	53 6.254	15 3.225	6 0.392						253.442	0.9260
K	46AC		5 0.952	4 0.453	7 1.505	0 0						15.233	0.0557
TOTALS	579		102 0.196	59 0.1137	23 0.2150	7 0.0454						273.200	1.0001
R	0		0 0	0 0	0 0	0 0						0	0
M	0		0 0	0 0	0 0	0 0						0	0
K	0		0 0	0 0	0 0	0 0						0	0
TOTALS	1		1 0.000	0 0	0 0	0 0						1.000	1.0000
R	461		1 0.037	0 0	1 0.215	1 0.065						0.215	0.0000
M	462		2 0.075	13 1.823	15 3.225	6 0.392						15.233	0.0557
K	463		1 0.037	2 0.250	7 1.505	0 0						3.402	0.1370
TOTALS	41		4 0.0374	15 0.402	23 0.2150	7 0.0454						24.853	1.0000
R	2		0 0	0 0	0 0	0 0						0.500	0.5000
M	0		0 0	0 0	0 0	0 0						0	0
K	0		0 0	0 0	0 0	0 0						0	0
TOTALS	2		0 0	0 0	0 0	0 0						1.000	1.0000

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

TASK PROBABILITY DATA SHEET

**Practitioner**

NOTES:  
 OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

TABLE E-28 SHEET 1

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET**



TABLE E-28 SHEET 2

[illegible]

NOTES:  
 OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
 WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
 SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY  
 WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED

# TASK PROBABILITY DATA SHEET

**TABLE E-28 SHEET 3**

[illegible]

NOTES: OCCURRENCE WEIGHT- ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS- ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY  
WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED

# TASK PROBABILITY DATA SHEET

TABLE E-29 SHEET 1

[illegible]

NOTES:

OCURRENCE WEIGHT- ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS- ACTUAL TASKS\* OCURRENCE WEIGHT.

SUBSYSTEM RESIDUAL ACTUAL TASKS- SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.

WEIGHTED AVERAGE TASK PROBABILITIES- WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

[illegible]

NOTES:

OCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.  
WEIGHTED TASKS= ACTUAL TASKS\* OCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

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[illegible]

NOTES:

### TASK PROBABILITY DATA SHEET

TABLE E-30 SHEET 1

[illegible]

NOTES:

- OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.
- WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.
- SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.
- WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

# TASK PROBABILITY DATA SHEET

**TABLE E-30 SHEET 2**

[illegible]

NOTES: OCCURRENCE WEIGHT= ACTUAL TASKS TOTAL/ SUBSYSTEM TOTAL TASKS TOTAL.

WEIGHTED TASKS= ACTUAL TASKS\* OCCURRENCE WEIGHT.  
SUBSYSTEM RESIDUAL ACTUAL TASKS= SUBSYSTEM TOTAL TASKS- SUM OF STUDY EQUIPMENT ACTUAL TASKS.  
WEIGHTED AVERAGE TASK PROBABILITIES= WEIGHTED TASK TOTALS/ WEIGHTED TASK TOTALS TOTAL.

**TASK PROBABILITY DATA SHEET.**

**TABLE E-30 SHEET 3**

[illegible]

NOTES:

# TASK PROBABILITY DATA SHEET



# APPENDIX F

## MAINTENANCE TASK SELECTION PROBABILITY DISTRIBUTIONS DATA AND STATISTICS

<u>SYSTEM</u>		<u>TABLE</u>
23000	Propulsion. . . . .	F-1
51A00	Flight Indicators . . . . .	F-2
51E00	Air Data System . . . . .	F-3
51N00	Horizontal Situation Indicator. . . . .	F-4
52A00	Autopilot . . . . .	F-5
63A00	UHF Communication Set . . . . .	F-6
65A00	IFF Transponder Set . . . . .	F-7
71A00	Inertial Navigation Set . . . . .	F-8
71C00	Instrument Landing Set. . . . .	F-9
71D00	TACAN Set . . . . .	F-10
71F00	Attitude-Heading Reference Set. . . . .	F-11
74F00	Radar Set . . . . .	F-12
11A01	Radome Assembly . . . . .	F-13
11A02	Windshield. . . . .	F-14
11K00	Wings . . . . .	F-15
12B00	Cockpit Furnishings . . . . .	F-16
13A00	Main Landing Gear . . . . .	F-17
13D00	Brake Subsystem . . . . .	F-18
14C00	Stabilator Subsystem. . . . .	F-19
14D00	Rudder Subsystem. . . . .	F-20
14H00	Flaps Subsystem . . . . .	F-21
41A00	Environmental Control Subsystem . . . . .	F-22
42A00	Aircraft Power Generation Subsystem . . . . .	F-23
44A01	Navigation/Anti-Collision Lights. . . . .	F-24
44A02	Landing/Taxi Lights . . . . .	F-25
45A00	Hydraulic Power Subsystem . . . . .	F-26
46A00	Internal Fuel Tanks . . . . .	F-27
47A01	Oxygen Regulator. . . . .	F-28
47A02	LOX Converter . . . . .	F-29
49A00	Fire Detection Subsystem. . . . .	F-30

TABLE F-1 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 2300 PROPULSION

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.660	0.277	0.063	0.760	0.026	0.214
	F-15A BITBURG	0.287	0.301	0.412	0.679	0.061	0.260
	B-52G FAIRCHILD	0.109	0.873	0.018	0.514	0.170	0.316
	FB-111A PLATTSBURGH	0.221	0.561	0.218	0.184	0.106	0.710
	C-141A TRAVIS	0.310	0.650	0.040	0.423	0.109	0.468
	KC-135A FAIRCHILD	0.115	0.797	0.088	0.676	0.128	0.196
	T-38A RANDOLPH	0.508	0.304	0.188	0.162	0.471	0.367
	A-10A MYRTLE BEACH	0.500	0.500	0	0	0	1.000
	A-10A DAVIS-MONTHAN	0.342	0.563	0.095	0.091	0.175	0.734
MEAN		0.339	0.536	0.125	0.388	0.138	0.474
MEDIAN		0.385	0.575	0.206	0.380	0.236	0.598
MODE		0.364	0.575	0.068	0.551	0.138	0.332
MODAL CLASS LOW		0.221	0.500	0.040	0.423	0.106	0.196
MODAL CLASS HIGH		0.508	0.650	0.095	0.679	0.170	0.468
RANGE		0.551	0.596	0.412	0.760	0.471	0.804
STANDARD DEVIATION		0.186	0.216	0.130	0.286	0.138	0.280

TABLE F-2 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 51A00 FLIGHT INDICATORS

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.672	0.148	0.180	0.669	0.293	0.038
	F-15A BITBURG	0.660	0.189	0.151	0.711	0.256	0.033
	B-52G FAIRCHILD	0.634	0.334	0.032	0.944	0.045	0.011
	FB-111A PLATTSBURGH	0.704	0.172	0.124	0.785	0.164	0.051
	C-141A TRAVIS	0.526	0.362	0.112	0.559	0.124	0.317
	KC-135A FAIRCHILD	0.299	0.611	0.090	0.654	0.094	0.252
	T-38A RANDOLPH	0.783	0.193	0.024	0.657	0.273	0.070
	A-10A MYRTLE BEACH	0.100	0.900	0	1.000	0	0
	A-10A DAVIS-MONTHAN	0.765	0.176	0.059	0.931	0.069	0
	MEAN	0.571	0.343	0.086	0.768	0.146	0.086
MEDIAN		0.442	0.524	0.090	0.779	0.146	0.158
MODE		0.654	0.171	0.135	0.672	0.274	0.035
MODAL CLASS LOW		0.526	0.148	0.090	0.559	0.256	0
MODAL CLASS HIGH		0.783	0.193	0.180	0.785	0.293	0.070
RANGE		0.683	0.752	0.180	0.441	0.293	0.317
STANDARD DEVIATION		0.229	0.256	0.061	0.156	0.107	0.116

TABLE F-3 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 51E00 AIR DATA SYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.611	0.192	0.197	0.278	0.270	0.452
	F-15A BITBURG	0.201	0.411	0.388	0.334	0.373	0.293
	B-52G FAIRCHILD	0.471	0.206	0.323	0.846	0.031	0.123
	FB-111A PLATTSBURGH	0.797	0.136	0.067	0.129	0.346	0.525
	C-141A TRAVIS	0.435	0.422	0.143	0.560	0.132	0.308
	KC-135A FAIRCHILD	0.249	0.688	0.063	0.603	0.111	0.286
	T-38A RANDOLPH	0.472	0.471	0.057	0.465	0.240	0.295
	A-10A MYRTLE BEACH	0	1.000	0	0	0	0
	A-10A DAVIS-MONTHAN	0.486	0.404	0.110	0.860	0.140	0
MEAN		0.414	0.436	0.150	0.509	0.205	0.286
MEDIAN		0.399	0.568	0.194	0.430	0.187	0.263
MODE		0.460	0.438	0.127	0.534	0.306	0.297
MODAL CLASS LOW		0.435	0.404	0.057	0.465	0.240	0.286
MODAL CLASS HIGH		0.486	0.471	0.197	0.603	0.373	0.308
RANGE		0.797	0.864	0.388	0.860	0.373	0.525
STANDARD DEVIATION		0.235	0.271	0.130	0.261	0.121	0.166

TABLE F-4 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 51N00 HORIZONTAL SITUATION INDICATOR

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.629	0.073	0.298	0.538	0.252	0.210
	F-15A BITBURG	0.445	0.089	0.466	0.378	0.266	0.356
	B-52G FAIRCHILD	0.740	0.128	0.132	0.996	0.002	0.002
	FB-111A PLATTSBURGH	0.657	0.226	0.117	0.778	0.169	0.053
	C-141A TRAVIS	0.470	0.351	0.179	0.984	0.005	0.011
	KC-135A FAIRCHILD	0.526	0.336	0.138	0.673	0.012	0.315
	T-38A RANDOLPH	0.828	0.157	0.015	0.626	0.300	0.074
	A-10A MYRTLE BEACH	0	0	0	0	0	0
	A-10A DAVIS-MONTHAN	0.394	0.445	0.161	0.619	0.189	0.192
	MEAN	0.586	0.226	0.188	0.699	0.149	0.152
MEDIAN		0.414	0.222	0.233	0.498	0.133	0.178
MODE		0.460	0.115	0.148	0.658	0.217	0.037
MODAL CLASS LOW		0.394	0.073	0.117	0.538	0.169	0
MODAL CLASS HIGH		0.526	0.157	0.179	0.778	0.266	0.074
RANGE		0.828	0.445	0.466	0.996	0.266	0.356
STANDARD DEVIATION		0.152	0.137	0.137	0.213	0.125	0.137

TABLE F- 5 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 52A00 AUTOPILOT

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.378	0.110	0.512	0.209	0.168	0.623
	F-15A BITBURG	0.130	0.181	0.689	0.131	0.369	0.500
	B-52G FAIRCHILD	0.873	0.116	0.011	0.300	0.271	0.429
	FB-111A PLATTSBURGH	0.694	0.095	0.211	0.378	0.326	0.296
	C-141A TRAVIS	0.726	0.207	0.067	0.762	0.216	0.022
	KC-135A FAIRCHILD	0.755	0.117	0.128	0.536	0.296	0.168
	T-38A RANDOLPH	0.517	0.384	0.099	0.461	0.277	0.262
	A-10A MYRTLE BEACH	0.529	0.471	0	0.300	0	0.700
	A-10A DAVIS-MONTHAN	0.559	0.184	0.257	0.112	0.288	0.600
MEAN		0.573	0.208	0.219	0.354	0.246	0.400
MEDIAN		0.502	0.283	0.345	0.437	0.185	0.361
MODE		0.695	0.151	0.098	0.339	0.299	0.565
MODAL CLASS LOW		0.517	0.095	0.067	0.300	0.271	0.429
MODAL CLASS HIGH		0.873	0.207	0.128	0.378	0.326	0.700
RANGE		0.743	0.376	0.689	0.650	0.369	0.678
STANDARD DEVIATION		0.224	0.133	0.236	0.208	0.109	0.228

TABLE F-6 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 63A00 UHF COMMUNICATION SET

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.416	0.267	0.317	0.221	0.073	0.706
	F-15A BITBURG	0.352	0.375	0.273	0.153	0.291	0.556
	B-52G FAIRCHILD	0.729	0.178	0.092	0.097	0.108	0.795
	FB-111A PLATTSBURGH	0.470	0.494	0.036	0.109	0.074	0.817
	C-141A TRAVIS	0.492	0.488	0.020	0.037	0.016	0.947
	KC-135A FAIRCHILD	0.662	0.229	0.109	0.140	0.073	0.787
	T-38A RANDOLPH	0.718	0.248	0.034	0.126	0.083	0.791
	A-10A MYRTLE BEACH	0	0	0	0	0	0
	A-10A DAVIS-MONTHAN	0.396	0.464	0.140	0.459	0.243	0.298
	MEAN	0.529	0.343	0.128	0.168	0.120	0.712
MEDIAN		0.365	0.247	0.159	0.229	0.145	0.474
MODE		0.422	0.222	0.116	0.125	0.078	0.802
MODAL CLASS LOW		0.352	0.178	0.092	0.097	0.073	0.787
MODAL CLASS HIGH		0.492	0.267	0.140	0.153	0.083	0.817
RANGE		0.729	0.494	0.317	0.459	0.291	0.947
STANDARD DEVIATION		0.151	0.128	0.112	0.129	0.095	0.200

TABLE F-7 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 65A00 IFF TRANSPONDER SET

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.242	0.070	0.688	0.326	0.046	0.628
	F-15A BITBURG	0.115	0.657	0.228	0.068	0.252	0.680
	B-52G FAIRCHILD	0.679	0.068	0.253	0.064	0.422	0.514
	FB-111A PLATTSBURGH	0.696	0.210	0.094	0.069	0.237	0.694
	C-141A TRAVIS	0.380	0.458	0.162	0.026	0.050	0.924
	KC-135A FAIRCHILD	0.525	0.143	0.332	0.049	0.312	0.639
	T-38A RANDOLPH	0.663	0.174	0.163	0.092	0.105	0.803
	A-10A MYRTLE BEACH	1.000	0	0	0	0.500	0.500
	A-10A DAVIS-MONTHAN	0.562	0.188	0.250	0.250	0.167	0.583
	MEAN	0.540	0.219	0.241	0.105	0.232	0.663
MEDIAN		0.558	0.328	0.334	0.163	0.273	0.712
MODE		0.629	0.177	0.208	0.046	0.179	0.661
MODAL CLASS LOW		0.562	0.143	0.162	0	0.046	0.628
MODAL CLASS HIGH		0.696	0.210	0.253	0.092	0.312	0.694
RANGE		0.885	0.657	0.688	0.326	0.454	0.424
STANDARD DEVIATION		0.266	0.209	0.194	0.109	0.159	0.135



TABLE F- 8 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 71A00 INERTIAL NAVIGATION SET

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.415	0.044	0.541	0.731	0.079	0.190
	F-15A BITBURG	0.274	0.040	0.686	0.332	0.372	0.296
	B-52G FAIRCHILD	-	-	-	-	-	-
	FB-111A PLATTSBURGH	0.543	0.092	0.365	0.210	0.232	0.558
	C-141A TRAVIS	0.329	0.300	0.371	0.100	0	0.900
	KC-135A FAIRCHILD	-	-	-	-	-	-
	T-38A RANDOLPH	0	0	0	0	0	0
	A-10A MYRTLE BEACH	-	-	-	-	-	-
	A-10A DAVIS-MONTHAN	-	-	-	-	-	-
	MEAN	0.390	0.119	0.491	0.343	0.171	0.486
MEDIAN		0.272	0.150	0.343	0.366	0.186	0.450
MODE		0.345	0.046	0.368	0.166	0.302	0.243
MODAL CLASS LOW		0.274	0	0.365	0	0.232	0.190
MODAL CLASS HIGH		0.415	0.092	0.371	0.332	0.372	0.296
RANGE		0.543	0.300	0.686	0.731	0.372	0.900
STANDARD DEVIATION		0.117	0.123	0.154	0.275	0.165	0.316

TABLE F-9 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 71C00 INSTRUMENT LANDING SET

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.423	0.071	0.506	0.125	0.125	0.750
	F-15A BITBURG	0.100	0.600	0.300	0.167	0.333	0.500
	B-52G FAIRCHILD	0.910	0.020	0.070	0.090	0.090	0.820
	FB-111A PLATTSBURGH	0.193	0.109	0.698	0.083	0.172	0.745
	C-141A TRAVIS	0.479	0.498	0.023	0	0	1.000
	KC-135A FAIRCHILD	0.425	0.575	0	0	0.369	0.631
	T-38A RANDOLPH	0.417	0.295	0.288	0.015	0.015	0.970
	A-10A MYRTLE BEACH	-	-	-	-	-	-
	A-10A DAVIS-MONTHAN	-	-	-	-	-	-
MEAN		0.421	0.310	0.269	0.069	0.158	0.773
MEDIAN		0.505	0.310	0.349	0.084	0.185	0.750
MODE		0.448	0.549	0.294	0.125	0.131	0.782
MODAL CLASS LOW		0.417	0.498	0.288	0.083	0.090	0.745
MODAL CLASS HIGH		0.479	0.600	0.300	0.167	0.172	0.820
RANGE		0.810	0.580	0.698	0.167	0.369	0.500
STANDARD DEVIATION		0.257	0.249	0.263	0.066	0.145	0.177

TABLE F-10 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 71D00 TACAN SET

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.280	0.248	0.472	0.210	0.113	0.677
	F-15A BITBURG	0.526	0.115	0.359	0.119	0.345	0.536
	B-52G FAIRCHILD	0.840	0.079	0.081	0.032	0.285	0.683
	FB-111A PLATTSBURGH	0.582	0.213	0.205	0.223	0.403	0.374
	C-141A TRAVIS	0.593	0.319	0.088	0.052	0.020	0.928
	KC-135A FAIRCHILD	0.789	0.164	0.047	0.056	0.206	0.737
	T-38A RANDOLPH	0.747	0.186	0.067	0.037	0.012	0.951
	A-10A MYRTLE BEACH	0	0	0	0	0	0
	A-10A DAVIS-MONTHAN	0.846	0.064	0.090	0.730	0.216	0.054
MEAN		0.650	0.174	0.176	0.182	0.200	0.618
MEDIAN		0.423	0.160	0.238	0.365	0.202	0.476
MODE		0.686	0.156	0.069	0.044	0.304	0.707
MODAL CLASS LOW		0.526	0.064	0.047	0.032	0.206	0.677
MODAL CLASS HIGH		0.846	0.248	0.090	0.056	0.403	0.737
RANGE		0.846	0.319	0.472	0.730	0.403	0.951
STANDARD DEVIATION		0.194	0.087	0.158	0.234	0.144	0.296

TABLE F-11 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 71F00 ATTITUDE-HEADING REFERENCE SET

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.484	0.032	0.484	0.206	0.526	0.268
	F-15A BITBURG	0.498	0.042	0.460	0.380	0.207	0.413
	B-52G FAIRCHILD	0.716	0.251	0.033	0.992	0	0.008
	FB-111A PLATTSBURGH	0.729	0.066	0.205	0.353	0.278	0.369
	C-141A TRAVIS	0.324	0.382	0.294	1.000	0	0
	KC-135A FAIRCHILD	0.701	0.299	0	1.000	0	0
	T-38A RANDOLPH	0.843	0.137	0.020	0.702	0.260	0.038
	A-10A MYRTLE BEACH	0	0	0	0	0	0
	A-10A DAVIS-MONTHAN	0.907	0.045	0.048	0.652	0.273	0.075
MEAN		0.650	0.157	0.193	0.661	0.193	0.146
MEDIAN		0.454	0.191	0.242	0.500	0.263	0.206
MODE		0.715	0.049	0.024	0.996	0.242	0.038
MODAL CLASS LOW		0.701	0.032	0	0.992	0.207	0
MODAL CLASS HIGH		0.729	0.066	0.048	1.000	0.278	0.075
RANGE		0.907	0.382	0.484	1.000	0.526	0.413
STANDARD DEVIATION		0.198	0.136	0.200	0.321	0.186	0.175

TABLE F-12 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 74F00 RADAR SET

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.319	0.095	0.586	0.405	0.110	0.485
	F-15A BITBURG	0.219	0.082	0.699	0.288	0.248	0.464
	B-52G FAIRCHILD	0.459	0.278	0.263	0.465	0.082	0.453
	FB-111A PLATTSBURGH	0.308	0.154	0.538	0.266	0.124	0.610
	C-141A TRAVIS	0.368	0.497	0.135	0.072	0.060	0.868
	KC-135A FAIRCHILD	0.801	0.172	0.027	0.044	0.167	0.789
	T-38A RANDOLPH	-	-	-	-	-	-
	A-10A MYRTLE BEACH	0	0	0	0	0	0
	A-10A DAVIS-MONTHAN	1.000	0	0	0	0	1.000
	MEAN	0.496	0.183	0.321	0.220	0.113	0.667
MEDIAN		0.500	0.249	0.350	0.233	0.124	0.500
MODE		0.338	0.127	0.562	0.277	0.164	0.469
MODAL CLASS LOW		0.308	0.082	0.538	0.266	0.060	0.453
MODAL CLASS HIGH		0.368	0.172	0.586	0.288	0.167	0.485
RANGE		1.000	0.497	0.699	0.465	0.248	1.000
STANDARD DEVIATION		0.291	0.163	0.285	0.184	0.079	0.220

TABLE F-13 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 11A01 RADOME ASSEMBLY

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.105	0.881	0.014	0.398	0	0.602
	F-15A BITBURG	0.025	0.940	0.035	0.071	0	0.929
	B-52G FAIRCHILD	0.152	0.794	0.054	0	0	1.000
	FB-111A PLATTSBURGH	0.223	0.777	0	0	0	1.000
	C-141A TRAVIS	0.249	0.743	0.008	0	0	1.000
	KC-135A FAIRCHILD	0.085	0.915	0	0	0	1.000
	T-38A RANDOLPH	0.189	0.807	0.004	0.003	0	0.997
	A-10A MYRTLE BEACH	-	-	-	-	-	-
	A-10A DAVIS-MONTHAN	-	-	-	-	-	-
	MEAN	0.147	0.837	0.016	0.067	0	0.933
MEDIAN		0.137	0.842	0.027	0.199	0	0.801
MODE		0.167	0.775	0.018	0.035	0	0.999
MODAL CLASS LOW		0.085	0.743	0	0	0	0.997
MODAL CLASS HIGH		0.249	0.807	0.035	0.071	0	1.000
RANGE		0.224	0.197	0.054	0.398	0	0.398
STANDARD DEVIATION		0.080	0.075	0.021	0.148	0	0.148

TABLE F-14 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 11A02 WINDSHIELD

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.044	0.939	0.017	0.324	0	0.676
	F-15A BITBURG	0.021	0.953	0.026	0.076	0	0.924
	B-52G FAIRCHILD	0.148	0.810	0.042	0	0	1.000
	FB-111A PLATTSBURGH	0.161	0.797	0.042	0.369	0	0.631
	C-141A TRAVIS	0.185	0.710	0.105	0	0	1.000
	KC-135A FAIRCHILD	0.160	0.734	0.106	0	0	1.000
	T-38A RANDOLPH	0.333	0.667	0	0.350	0	0.650
	A-10A MYRTLE BEACH	0.200	0.800	0	0	0	1.000
	A-10A DAVIS-MONTHAN	0.027	0.973	0	0	0	1.000
	MEAN	0.142	0.820	0.038	0.124	0	0.876
MEDIAN		0.177	0.820	0.053	0.185	0	0.815
MODE		0.174	0.804	0.021	0.038	0	0.962
MODAL CLASS LOW		0.148	0.797	0	0	0	0.924
MODAL CLASS HIGH		0.200	0.810	0.042	0.076	0	1.000
RANGE		0.312	0.316	0.106	0.369	0	0.369
STANDARD DEVIATION		0.100	0.111	0.042	0.170	0	0.170

TABLE F-15 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 11K00 WINGS

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.054	0.941	0.005	0	0	1.000
	F-15A BITBURG	0.025	0.950	0.025	0.250	0	0.750
	B-52G FAIRCHILD	0.015	0.943	0.042	0	0	1.00
	FB-111A PLATTSBURGH	0.159	0.834	0.007	0.080	0	0.920
	C-141A TRAVIS	0.126	0.868	0.006	0	0.338	0.662
	KC-135A FAIRCHILD	0.012	0.969	0.019	0	0	1.000
	T-38A RANDOLPH	0.165	0.835	0	0.176	0.006	0.818
	A-10A MYRTLE BEACH	0.400	0.600	0	0	0	1.000
	A-10A DAVIS-MONTHAN	0.198	0.791	0.011	0	0	1.000
MEAN		0.128	0.859	0.013	0.056	0.038	0.906
MEDIAN		0.194	0.785	0.021	0.125	0.169	0.831
MODE		0.162	0.830	0.021	0.040	0.003	0.960
MODAL CLASS LOW		0.126	0.791	0	0	0	0.920
MODAL CLASS HIGH		0.198	0.868	0.042	0.080	0.006	1.000
RANGE		0.388	0.369	0.042	0.250	0.338	0.338
STANDARD DEVIATION		0.124	0.116	0.014	0.094	0.112	0.130



TABLE F-16 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 12800 COCKPIT FURNISHINGS

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.333	0.667	0	0	0	0
	F-15A BITBURG	0	1.000	0	0	0	0
	B-52G FAIRCHILD	0.258	0.718	0.024	0.667	0	0.333
	FB-111A PLATTSBURGH	0.175	0.815	0.010	0.586	0	0.414
	C-141A TRAVIS	0.067	0.933	0	0.007	0.041	0.952
	KC-135A FAIRCHILD	0.197	0.803	0	0	0	1.000
	T-38A RANDOLPH	0.352	0.641	0.007	0.988	0.005	0.007
	A-10A MYRTLE BEACH	0	1.000	0	0	0	0
	A-10A DAVIS-MONTHAN	0	0.400	0.600	0	0	0
	MEAN	0.154	0.775	0.071	0.450	0.009	0.541
MEDIAN		0.176	0.700	0.300	0.494	0.020	0.500
MODE		0.216	0.680	0.012	0.003	0.002	0.003
MODAL CLASS LOW		0.175	0.641	0	0	0	0
MODAL CLASS HIGH		0.258	0.718	0.024	0.007	0.005	0.007
RANGE		0.352	0.600	0.600	0.988	0.041	1.000
STANDARD DEVIATION		0.143	0.194	0.198	0.434	0.018	0.425

TABLE F-17 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 13A00 MAIN LANDING GEAR

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	1.000	0	0	1.000	0	0
	F-15A BITBURG	0.996	0.004	0	0.242	0.733	0.025
	B-52G FAIRCHILD	0.323	0.036	0.641	0.113	0.887	0
	FB-111A PLATTSBURGH	0.347	0.031	0.622	0	1.000	0
	C-141A TRAVIS	0.403	0.002	0.595	0.458	0.486	0.056
	KC-135A FAIRCHILD	0.351	0.054	0.595	0.092	0.818	0.090
	T-38A RANDOLPH	0.999	0.001	0	0.435	0.006	0.559
	A-10A MYRTLE BEACH	1.000	0	0	0	1.000	0
	A-10A DAVIS-MONTHAN	1.000	0	0	0.516	0	0.484
MEAN		0.713	0.014	0.273	0.317	0.548	0.135
MEDIAN		0.662	0.027	0.320	0.500	0.500	0.280
MODE		0.998	0.002	0	0.475	0.810	0.045
MODAL CLASS LOW		0.996	0	0	0.435	0.733	0
MODAL CLASS HIGH		1.000	0.004	0	0.516	0.887	0.090
RANGE		0.677	0.054	0.641	1.000	1.000	0.559
STANDARD DEVIATION		0.340	0.021	0.324	0.324	0.437	0.222

TABLE F-18 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 13D00 BRAKE SUBSYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.935	0.061	0.003	0.417	0.003	0.580
	F-15A BITBURG	0.699	0.278	0.023	0.759	0.048	0.193
	B-52G FAIRCHILD	0.207	0.397	0.396	0.003	0.397	0.600
	FB-111A PLATTSBURGH	0.235	0.250	0.515	0.882	0.051	0.067
	C-141A TRAVIS	0.270	0.682	0.048	0.308	0.168	0.524
	KC-135A FAIRCHILD	0.191	0.243	0.566	0.019	0.496	0.485
	T-38A RANDOLPH	0.524	0.472	0.004	0.013	0.337	0.650
	A-10A MYRTLE BEACH	0	1.000	0	0	0	0
	A-10A DAVIS-MONTHAN	0.300	0.433	0.267	1.000	0	0
	MEAN	0.373	0.424	0.203	0.425	0.188	0.387
MEDIAN		0.467	0.531	0.283	0.500	0.248	0.325
MODE		0.245	0.260	0.024	0.010	0.025	0.568
MODAL CLASS LOW		0.191	0.243	0	0	0	0.485
MODAL CLASS HIGH		0.300	0.278	0.048	0.019	0.051	0.650
RANGE		0.935	0.938	0.566	1.000	0.496	0.650
STANDARD DEVIATION		0.291	0.278	0.237	0.410	0.196	0.259

TABLE F-19 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 14C00 STABILATOR SUBSYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.265	0.575	0.160	0.689	0	0.311
	F-15A BITBURG	0.202	0.708	0.090	0.917	0	0.083
	B-52G FAIRCHILD	0.046	0.647	0.307	1.000	0	0
	FB-111A PLATTSBURGH	0.273	0.327	0.400	0.763	0.017	0.220
	C-141A TRAVIS	0.136	0.861	0.003	0	0.792	0.208
	KC-135A FAIRCHILD	0	0.989	0.011	0	0	1.000
	T-38A RANDOLPH	0.497	0.384	0.119	0.026	0.121	0.853
	A-10A MYRTLE BEACH	0	1.000	0	0	0	0
	A-10A DAVIS-MONTHAN	0.045	0.955	0	0	0	1.000
MEAN		0.163	0.716	0.121	0.424	0.116	0.459
MEDIAN		0.248	0.664	0.200	0.500	0.396	0.500
MODE		0.205	0.977	0.080	0.013	0.009	0.260
MODAL CLASS LOW		0.136	0.955	0	0	0	0.208
MODAL CLASS HIGH		0.273	1.000	0.160	0.026	0.017	0.311
RANGE		0.497	0.673	0.400	1.000	0.792	1.000
STANDARD DEVIATION		0.165	0.255	0.146	0.456	0.276	0.420

TABLE F-20 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 14000 RUDDER SUBSYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.231	0.628	0.141	0.554	0	0.446
	F-15A BITBURG	0.250	0.580	0.170	0.878	0	0.122
	B-52G FAIRCHILD	0	0	1.000	0	0	0
	FB-111A PLATTSBURGH	0.182	0.460	0.358	0.352	0	0.648
	C-141A TRAVIS	0.190	0.682	0.128	0.119	0.017	0.864
	KC-135A FAIRCHILD	0.203	0.509	0.288	0.179	0.385	0.436
	T-38A RANDOLPH	0.515	0.438	0.047	0.047	0.568	0.385
	A-10A MYRTLE BEACH	0	1.000	0	0	0	0
	A-10A DAVIS-MONTHAN	0.242	0.511	0.247	0.020	0.140	0.840
	MEAN	0.201	0.534	0.265	0.307	0.159	0.534
MEDIAN		0.258	0.500	0.500	0.439	0.284	0.432
MODE		0.216	0.560	0.149	0.024	0.009	0.415
MODAL CLASS LOW		0.182	0.438	0.128	0	0	0.385
MODAL CLASS HIGH		0.250	0.682	0.170	0.047	0.017	0.446
RANGE		0.515	1.000	1.000	0.878	0.568	0.864
STANDARD DEVIATION		0.152	0.262	0.298	0.314	0.229	0.266

TABLE F-21 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 14H00 FLAP SUBSYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.375	0.284	0.341	1.000	0	0
	F-15A BITBURG	0.043	0.854	0.103	1.000	0	0
	B-52G FAIRCHILD	0.173	0.644	0.183	0.162	0	0.838
	FB-111A PLATTSBURGH	0.139	0.515	0.346	0.039	0.005	0.956
	C-141A TRAVIS	0.228	0.513	0.259	0.648	0.026	0.326
	KC-135A FAIRCHILD	0.037	0.866	0.097	0.052	0.052	0.896
	T-38A RANDOLPH	0.286	0.568	0.146	0.170	0.018	0.812
	A-10A MYRTLE BEACH	0	0.500	0.500	0	0	0
	A-10A DAVIS-MONTHAN	0.102	0.837	0.061	0.222	0	0.778
MEAN		0.154	0.620	0.226	0.412	0.013	0.575
MEDIAN		0.188	0.575	0.280	0.500	0.026	0.478
MODE		0.194	0.534	0.122	0.192	0.013	0.808
MODAL CLASS LOW		0.102	0.500	0.061	0.162	0	0.778
MODAL CLASS HIGH		0.286	0.568	0.183	0.222	0.026	0.838
RANGE		0.375	0.582	0.439	1.000	0.052	0.956
STANDARD DEVIATION		0.125	0.199	0.146	0.409	0.019	0.403

TABLE F-22 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 41A00 ENVIRONMENTAL CONTROL SUBSYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.552	0.379	0.069	0.500	0.281	0.219
	F-15A BITBURG	0.429	0.262	0.309	0.880	0.111	0
	B-52G FAIRCHILD	0.136	0.766	0.098	0	0	0
	FB-111A PLATTSBURGH	0.552	0.415	0.033	0.658	0.031	0.311
	C-141A TRAVIS	0.228	0.706	0.066	0	0	1.000
	KC-135A FAIRCHILD	0.471	0.309	0.220	0.591	0	0.409
	T-38A RANDOLPH	0.494	0.470	0.036	0.192	0.011	0.797
	A-10A MYRTLE BEACH	1.000	0	0	0	0	0
	A-10A DAVIS-MONTHAN	0.633	0.367	0	0	0	1.000
MEAN		0.499	0.408	0.093	0.404	0.062	0.534
MEDIAN		0.568	0.383	0.155	0.444	0.140	0.500
MODE		0.490	0.366	0.049	0.579	0.015	0.314
MODAL CLASS LOW		0.429	0.262	0	0.500	0	0.219
MODAL CLASS HIGH		0.552	0.470	0.098	0.658	0.031	0.409
RANGE		0.864	0.766	0.309	0.889	0.281	1.000
STANDARD DEVIATION		0.246	0.229	0.105	0.345	0.104	0.399

TABLE F-23 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 42A00 AIRCRAFT POWER GENERATING SUBSYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.461	0.429	0.110	0.298	0.595	0.107
	F-15A BITBURG	0.496	0.440	0.064	0.566	0.181	0.253
	B-52G FAIRCHILD	0.158	0.839	0.003	0.660	0.040	0.300
	FB-111A PLATTSBURGH	0.344	0.651	0.005	0.474	0.026	0.500
	C-141A TRAVIS	0.372	0.564	0.064	0.230	0.311	0.459
	KC-135A FAIRCHILD	0.263	0.704	0.033	0.522	0.014	0.464
	T-38A RANDOLPH	0.263	0.720	0.017	0.045	0.182	0.773
	A-10A MYRTLE BEACH	0	0	0	0	0	0
	A-10A DAVIS-MONTHAN	0.769	0.203	0.028	0.769	0.192	0.039
MEAN		0.391	0.569	0.040	0.445	0.193	0.362
MEDIAN		0.385	0.420	0.055	0.385	0.298	0.386
MODE		0.380	0.575	0.032	0.520	0.186	0.480
MODAL CLASS LOW		0.263	0.429	0	0.474	0.181	0.459
MODAL CLASS HIGH		0.496	0.720	0.064	0.566	0.192	0.500
RANGE		0.769	0.839	0.110	0.769	0.595	0.773
STANDARD DEVIATION		0.188	0.204	0.037	0.239	0.192	0.237



TABLE F-24 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 44A01 NAVIGATION/ANTI-COLLISION LIGHTS

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.268	0.725	0.007	0.381	0.073	0.546
	F-15A BITBURG	0.510	0.490	0	0.100	0	0.900
	B-52G FAIRCHILD	0.382	0.618	0	0.111	0	0.889
	FB-111A PLATTSBURGH	0.580	0.418	0.002	0.317	0.027	0.656
	C-141A TRAVIS	0.320	0.653	0.027	0.003	0.044	0.953
	KC-135A FAIRCHILD	0	0	0	0	0	0
	T-38A RANDOLPH	0.363	0.599	0.038	0.132	0.026	0.842
	A-10A MYRTLE BEACH	0	0	0	0	0	0
	A-10A DAVIS-MONTHAN	0.657	0.343	0	0	0	0
MEAN		0.440	0.549	0.011	0.174	0.028	0.798
MEDIAN		0.329	0.363	0.019	0.190	0.036	0.477
MODE		0.325	0.626	0.019	0.116	0.036	0.898
MODAL CLASS LOW		0.268	0.599	0	0.100	0	0.842
MODAL CLASS HIGH		0.382	0.653	0.038	0.132	0.073	0.953
RANGE		0.657	0.725	0.038	0.381	0.073	0.953
STANDARD DEVIATION		0.144	0.137	0.016	0.144	0.028	0.160

TABLE F-25 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 44A02 LANDING/TAXI LIGHTS

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.331	0.663	0.006	0.400	0.080	0.520
	F-15A BITBURG	0.452	0.548	0	0.105	0	0.895
	B-52G FAIRCHILD	0.094	0.906	0	0	0	1.000
	FB-111A PLATTSBURGH	0.619	0.379	0.002	0.339	0.034	0.627
	C-141A TRAVIS	0.396	0.574	0.030	0.004	0.048	0.948
	KC-135A FAIRCHILD	0.164	0.836	0	0	0	0
	T-38A RANDOLPH	0.347	0.628	0.025	0.147	0.030	0.823
	A-10A MYRTLE BEACH	0	0	0	0	0	0
	A-10A DAVIS-MONTHAN	0.514	0.486	0	1.000	0	0
MEAN		0.365	0.628	0.007	0.285	0.027	0.688
MEDIAN		0.310	0.453	0.015	0.500	0.040	0.500
MODE		0.364	0.575	0.003	0.126	0.024	0.912
MODAL CLASS LOW		0.311	0.486	0	0.105	0	0.823
MODAL CLASS HIGH		0.396	0.663	0.006	0.147	0.048	1.000
RANGE		0.619	0.906	0.030	1.000	0.080	1.000
STANDARD DEVIATION		0.173	0.175	0.012	0.351	0.030	0.349

TABLE F-26 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 45A00 HYDRAULIC POWER CONTROL SUBSYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.485	0.425	0.090	0.739	0	0.261
	F-15A BITBURG	0	0.961	0.039	0	0	0
	B-52G FAIRCHILD	0.216	0.547	0.237	0.384	0.062	0.554
	FB-111A PLATTSBURGH	0.149	0.607	0.244	0.645	0.022	0.333
	C-141A TRAVIS	0.233	0.726	0.041	0.574	0.166	0.260
	KC-135A FAIRCHILD	0.103	0.713	0.184	0.116	0.801	0.083
	T-38A RANDOLPH	0.469	0.427	0.104	0.264	0.711	0.025
	A-10A MYRTLE BEACH	0	0	0	0	0	0
	A-10A DAVIS-MONTHAN	0.404	0.385	0.211	1.000	0	0
MEAN		0.257	0.599	0.144	0.532	0.252	0.216
MEDIAN		0.242	0.480	0.122	0.500	0.400	0.277
MODE		0.168	0.406	0.214	0.656	0.031	0.042
MODAL CLASS LOW		0.103	0.385	0.184	0.574	0	0
MODAL CLASS HIGH		0.233	0.427	0.244	0.739	0.062	0.083
RANGE		0.485	0.961	0.244	1.000	0.801	0.554
STANDARD DEVIATION		0.178	0.196	0.085	0.301	0.350	0.197

TABLE F-27 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 46A00 INTERNAL FUEL SUBSYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.431	0.403	0.166	0.952	0	0.048
	F-15A BITBURG	0.228	0.435	0.337	0.678	0	0.322
	B-52G FAIRCHILD	0.177	0.591	0.232	1.000	0	0
	FB-111A PLATTSBURGH	0.011	0.978	0.011	0.500	0	0.500
	C-141A TRAVIS	0.018	0.926	0.056	0	0	1.000
	KC-135A FAIRCHILD	0.248	0.615	0.137	1.000	0	0
	T-38A RANDOLPH	0.400	0.520	0.080	0.648	0.352	0
	A-10A MYRTLE BEACH	0	1.000	0	0	0	0
	A-10A DAVIS-MONTHAN	0.173	0.482	0.345	0	0	0
MEAN		0.187	0.661	0.152	0.683	0.050	0.267
MEDIAN		0.207	0.702	0.173	0.500	0.171	0.500
MODE		0.210	0.509	0.083	0.976	0	0.024
MODAL CLASS LOW		0.173	0.403	0	0.952	0	0
MODAL CLASS HIGH		0.248	0.615	0.166	1.000	0	0.048
RANGE		0.413	0.597	0.345	1.000	0.351	1.000
STANDARD DEVIATION		0.160	0.240	0.130	0.359	0.133	0.378

TABLE F-28 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 47A01 OXYGEN REGULATOR

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.800	0.200	0	0.680	0.053	0.267
	F-15A BITBURG	0.823	0.098	0.079	0.845	0.020	0.135
	B-52G FAIRCHILD	0.601	0.171	0.228	0.926	0.037	0.037
	FB-111A PLATTSBURGH	0.387	0.595	0.018	1.000	0	0
	C-141A TRAVIS	0.459	0.441	0.100	0.902	0.058	0.040
	KC-135A FAIRCHILD	0.603	0.277	0.120	0.971	0.029	0
	T-38A RANDOLPH	0.790	0.210	0	0.985	0.015	0
	A-10A MYRTLE BEACH	1.000	0	0	1.000	0	0
	A-10A DAVIS-MONTHAN	0.439	0.329	0.232	1.000	0	0
MEAN		0.656	0.258	0.086	0.923	0.024	0.053
MEDIAN		0.694	0.298	0.116	0.840	0.029	0.134
MODE		0.806	0.190	0.100	0.951	0.019	0.020
MODAL CLASS LOW		0.790	0.171	0.079	0.902	0	0
MODAL CLASS HIGH		0.823	0.210	0.120	1.000	0.037	0.040
RANGE		0.613	0.595	0.232	0.320	0.058	0.267
STANDARD DEVIATION		0.209	0.180	0.093	0.106	0.022	0.091

TABLE F-29 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 47A02 LOX CONVERTER

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.824	0.176	0	0.701	0.050	0.249
	F-15A BITBURG	0.842	0.073	0.085	0.888	0.023	0.089
	B-52G FAIRCHILD	0.431	0.299	0.270	0.888	0	0.112
	FB-111A PLATTSBURGH	0.347	0.635	0.018	1.000	0	0
	C-141A TRAVIS	0.445	0.466	0.089	0.885	0.070	0.045
	KC-135A FAIRCHILD	0.267	0.533	0.200	0.833	0	0.167
	T-38A RANDOLPH	0.820	0.180	0	0.985	0.015	0
	A-10A MYRTLE BEACH	0	0	0	0	1.000	0
	A-10A DAVIS-MONTHAN	0.385	0.615	0	0	0	0
MEAN		0.545	0.372	0.083	0.772	0.145	0.083
MEDIAN		0.421	0.318	0.135	0.500	0.500	0.125
MODE		0.356	0.550	0.045	0.860	0.035	0.078
MODAL CLASS LOW		0.267	0.466	0	0.833	0	0.045
MODAL CLASS HIGH		0.445	0.635	0.089	0.888	0.070	0.112
RANGE		0.842	0.635	0.270	1.000	1.000	0.249
STANDARD DEVIATION		0.241	0.218	0.103	0.326	0.347	0.091

TABLE F-30 - MAINTENANCE TASK SELECTION PROBABILITY  
DISTRIBUTIONS DATA AND STATISTICS

SUBSYSTEM: 49A00 OVERHEAT/FIRE DETECTION AND  
EXTINGUISHING SUBSYSTEM

		LCOM TASK CODE					
		ON EQUIPMENT			OFF EQUIPMENT		
		R (REMOVE)	M (FIX)	H (CHECK OK)	N (SENT ON)	K (CHECK OK)	W (FIX)
WEIGHTED AVERAGE TASK PROBABILITIES	F-15A LUKE	0.176	0.795	0.029	0.200	0.800	0
	F-15A BITBURG	0.500	0.500	0	0	0	0
	B-52G FAIRCHILD	0.150	0.700	0.150	1.000	0	0
	FB-111A PLATTSBURGH	0.620	0.346	0.034	0	0	0
	C-141A TRAVIS	0.248	0.685	0.067	0.389	0	0.611
	KC-135A FAIRCHILD	0.293	0.707	0	0	0	1.000
	T-38A RANDOLPH	0.515	0.310	0.175	0.902	0.098	0
	A-10A MYRTLE BEACH	0.534	0.421	0.045	0.808	0.192	0
	A-10A DAVIS-MONTHAN	0.003	0.994	0.003	0	0	0
MEAN		0.338	0.606	0.056	0.550	0.182	0.268
MEDIAN		0.312	0.652	0.088	0.500	0.400	0.500
MODE		0.222	0.696	0.048	None	0.049	0
MODAL CLASS LOW		0.150	0.685	0.029	None	0	0
MODAL CLASS HIGH		0.293	0.707	0.067	None	0.098	0
RANGE		0.617	0.684	0.175	1.000	0.800	1.000
STANDARD DEVIATION		0.212	0.227	0.065	0.411	0.313	0.434

**DAT  
FILM**